



1
00:00:03,909 --> 00:00:02,149
21 you're getting a live view of the

2
00:00:09,990 --> 00:00:03,919
inside of the international space

3
00:00:16,230 --> 00:00:13,270
currently us os astronauts all occupying

4
00:00:18,870 --> 00:00:16,240
the inside of the quest airlock

5
00:00:19,670 --> 00:00:18,880
at the foreground of this view you see

6
00:00:26,150 --> 00:00:19,680
uh

7
00:00:27,990 --> 00:00:26,160
aerospace exploration agency aki hoshide

8
00:00:30,630 --> 00:00:28,000
helping out with some of the suit-up

9
00:00:31,589 --> 00:00:30,640
activities with megan mcarthur who you

10
00:00:33,590 --> 00:00:31,599
see

11
00:00:35,270 --> 00:00:33,600
on the right of your screen nasa

12
00:00:38,150 --> 00:00:35,280
astronaut

13
00:00:40,470 --> 00:00:38,160

and at the top is mark vande high

14

00:00:41,430 --> 00:00:40,480

nasa astronaut uh who is the lead suit

15

00:00:43,590 --> 00:00:41,440

iv

16

00:00:46,069 --> 00:00:43,600

helping to aid our two space walking

17

00:00:48,869 --> 00:00:46,079

astronauts get suited up as they undergo

18

00:00:50,869 --> 00:00:48,879

the final steps of their pre-breathing

19

00:00:53,590 --> 00:00:50,879

steps which include in-suit light

20

00:00:55,510 --> 00:00:53,600

exercise and breathing 100 oxygen into

21

00:00:58,709 --> 00:00:55,520

their suits the two space walking

22

00:01:00,950 --> 00:00:58,719

astronauts today include tama pesquet

23

00:01:02,630 --> 00:01:00,960

of the european space agency he's in the

24

00:01:05,030 --> 00:01:02,640

suit on the right that you see getting

25

00:01:10,469 --> 00:01:05,040

fitted with a safer unit this is

26
00:01:15,670 --> 00:01:12,710
also joining him is nasa astronaut shane

27
00:01:17,910 --> 00:01:15,680
kimbrough taking on this ev2 role

28
00:01:20,550 --> 00:01:17,920
wearing the suit with white stripes or

29
00:01:22,630 --> 00:01:20,560
the unmarked suit

30
00:01:24,310 --> 00:01:22,640
the two are planned for a six and a half

31
00:01:25,990 --> 00:01:24,320
hour expedition outside of the

32
00:01:27,990 --> 00:01:26,000
international space station today to

33
00:01:34,149 --> 00:01:28,000
complete some of the work they started

34
00:01:40,069 --> 00:01:37,590
they began outfitting the station's 2b

35
00:01:42,149 --> 00:01:40,079
power channel this is a power channel on

36
00:01:46,550 --> 00:01:42,159
the far port side of the international

37
00:01:49,830 --> 00:01:46,560
space station uh that faces the uh uh

38
00:01:52,469 --> 00:01:49,840

space space facing side the nader side

39

00:01:54,389 --> 00:01:52,479

you see on the far right of your screen

40

00:01:57,190 --> 00:01:54,399

is the solar augmentation plant there

41

00:01:58,709 --> 00:01:57,200

are solar arrays six sets of solar rays

42

00:02:01,190 --> 00:01:58,719

that are planned to augment the

43

00:02:03,910 --> 00:02:01,200

station's existing power supply

44

00:02:06,389 --> 00:02:03,920

they're working on the 2b power channel

45

00:02:10,469 --> 00:02:06,399

which is actually the earth-facing side

46

00:02:14,790 --> 00:02:12,309

today is spacewalk they'll be uh

47

00:02:17,510 --> 00:02:14,800

finishing up some of the work to install

48

00:02:19,350 --> 00:02:17,520

and deploy uh the solar array that's

49

00:02:21,350 --> 00:02:19,360

currently out on the mounting bracket of

50

00:02:23,750 --> 00:02:21,360

the 2b power channel and they'll start

51
00:02:27,750 --> 00:02:23,760
some of the prep work to uh

52
00:02:30,309 --> 00:02:27,760
begin the installation of a solar array

53
00:02:32,070 --> 00:02:30,319
on the 4b power channel they won't quite

54
00:02:33,190 --> 00:02:32,080
move it out to the 4b channel yet

55
00:02:35,830 --> 00:02:33,200
they'll just

56
00:02:38,229 --> 00:02:35,840
get it unbolted from the flight support

57
00:02:39,990 --> 00:02:38,239
equipment in preparation for another

58
00:02:41,750 --> 00:02:40,000
spacewalk that's scheduled

59
00:02:43,830 --> 00:02:41,760
for later in the week currently june

60
00:02:51,830 --> 00:02:43,840
25th to complete the work on the 4b

61
00:02:57,910 --> 00:02:53,509
the solar arrays themselves were

62
00:03:01,190 --> 00:02:57,920
delivered recently on spacex crs 22

63
00:03:03,030 --> 00:03:01,200

folded in half and when fully deployed

64

00:03:05,830 --> 00:03:03,040

that part of the today's procedures will

65

00:03:08,149 --> 00:03:05,840

be unfolding them they'll be 15 feet

66

00:03:10,949 --> 00:03:08,159

wide then when they actually deploy and

67

00:03:13,110 --> 00:03:10,959

roll up the solar array they'll shadow

68

00:03:16,710 --> 00:03:13,120

most of the existing solar arrays and

69

00:03:18,630 --> 00:03:16,720

extend 60 feet upward

70

00:03:21,430 --> 00:03:18,640

once fully extended they'll be able to

71

00:03:23,670 --> 00:03:21,440

generate about 20 kilowatts of energy

72

00:03:25,910 --> 00:03:23,680

with the six planned as part of this

73

00:03:29,509 --> 00:03:25,920

augmentation plan this will provide an

74

00:03:41,670 --> 00:03:29,519

additional 120 kilowatts of power to the

75

00:03:45,430 --> 00:03:43,350

you see in the background there megan

76

00:03:47,350 --> 00:03:45,440

mcarthur getting a

77

00:03:49,990 --> 00:03:47,360

pesquet fitted into

78

00:03:51,990 --> 00:03:50,000

the crew lock

79

00:03:54,070 --> 00:03:52,000

pesky will take the ev1 position it'll

80

00:03:56,229 --> 00:03:54,080

be his responsibility to open the hatch

81

00:03:59,589 --> 00:03:56,239

and the thermal cover he'll also be the

82

00:04:02,229 --> 00:03:59,599

first one to exit for today's spacewalk

83

00:04:04,149 --> 00:04:02,239

coming into the frame now aki hoshide

84

00:04:06,630 --> 00:04:04,159

carrying another safer unit against

85

00:04:08,949 --> 00:04:06,640

simplified aid for eva rescue this

86

00:04:10,550 --> 00:04:08,959

provides propulsion to the astronauts

87

00:04:12,309 --> 00:04:10,560

should they become untethered but you

88

00:04:14,710 --> 00:04:12,319

see the tethered are configured on their

89

00:04:16,789 --> 00:04:14,720

body restraint tether on the forward end

90

00:04:19,030 --> 00:04:16,799

of their spacesuits now

91

00:04:19,749 --> 00:04:19,040

they'll do a tether check before exiting

92

00:04:23,749 --> 00:04:19,759

the

93

00:04:27,830 --> 00:04:23,759

and a half

94

00:04:32,070 --> 00:04:30,230

today's work sites are out on the port 6

95

00:04:33,909 --> 00:04:32,080

trust they'll be making their way out of

96

00:04:36,469 --> 00:04:33,919

the quest airlock and along the port 6

97

00:04:38,230 --> 00:04:36,479

truss they're awaiting on the 2b power

98

00:04:41,189 --> 00:04:38,240

channel the 2b channel worksite you see

99

00:04:43,430 --> 00:04:41,199

on the far right of your screen uh on

100

00:04:45,189 --> 00:04:43,440

the tip of a mounting bracket which were

101
00:04:47,350 --> 00:04:45,199
installed on spacewalks earlier this

102
00:04:49,510 --> 00:04:47,360
year completed in march

103
00:04:51,510 --> 00:04:49,520
there is a solar array waiting for them

104
00:04:53,350 --> 00:04:51,520
it is in a folded configuration and a

105
00:04:55,350 --> 00:04:53,360
temporary stowed position after

106
00:04:56,390 --> 00:04:55,360
attempting to deploy it on the previous

107
00:04:58,629 --> 00:04:56,400
eva

108
00:05:00,550 --> 00:04:58,639
they were unable to deploy it by the end

109
00:05:02,710 --> 00:05:00,560
of the spacewalk a little bit of

110
00:05:04,070 --> 00:05:02,720
configuration and troubleshooting some

111
00:05:06,629 --> 00:05:04,080
of those steps from the previous

112
00:05:10,230 --> 00:05:06,639
spacewalk the teams are ready to execute

113
00:05:13,110 --> 00:05:10,240

the procedures today to unfold the array

114

00:05:19,029 --> 00:05:13,120

that's at that 2b channel worksite and

115

00:05:23,270 --> 00:05:21,670

here is the array currently in its

116

00:05:25,990 --> 00:05:23,280

folded position this is what it looks

117

00:05:27,909 --> 00:05:26,000

like out at the work site

118

00:05:29,749 --> 00:05:27,919

again it's in a temporary stowed

119

00:05:32,629 --> 00:05:29,759

position part of the procedures will be

120

00:05:36,070 --> 00:05:32,639

to hard mate it to the mounting bracket

121

00:05:37,830 --> 00:05:36,080

followed by unfolding it and

122

00:05:41,110 --> 00:05:37,840

torquing some pins that are in the

123

00:05:43,029 --> 00:05:41,120

middle of the solar arrays to keep it in

124

00:05:45,029 --> 00:05:43,039

that unfolded position

125

00:05:46,550 --> 00:05:45,039

there are two bolts that need to be

126

00:05:50,310 --> 00:05:46,560

unscrewed

127

00:05:52,790 --> 00:05:50,320

in order to deploy the 60-foot solar

128

00:05:58,150 --> 00:05:52,800

arrays that'll extend a while the two

129

00:06:02,070 --> 00:05:59,990

once the piece the work out of the p6

130

00:06:03,830 --> 00:06:02,080

truss is complete the 2b channel and the

131

00:06:05,350 --> 00:06:03,840

4b channel that they'll complete later

132

00:06:07,430 --> 00:06:05,360

in the week and of course start the

133

00:06:09,670 --> 00:06:07,440

preparations for uh during today's

134

00:06:12,309 --> 00:06:09,680

spacewalk uh they'll be working with

135

00:06:15,270 --> 00:06:12,319

some of the modification kits you see uh

136

00:06:17,830 --> 00:06:15,280

with the cad drying off on the left side

137

00:06:20,390 --> 00:06:17,840

of your screen was a modification kit

138

00:06:23,670 --> 00:06:20,400

that was mounted to the mast canister of

139

00:06:25,670 --> 00:06:23,680

both the 4b and the 2b work sites

140

00:06:27,270 --> 00:06:25,680

where they're installing the two solar

141

00:06:31,029 --> 00:06:27,280

arrays that deliver were delivered

142

00:06:33,029 --> 00:06:31,039

recently on spacex crs 22.

143

00:06:35,510 --> 00:06:33,039

again there is a solar array out at the

144

00:06:37,189 --> 00:06:35,520

mounting bracket of the 2b channel the

145

00:06:39,909 --> 00:06:37,199

other solar array is currently at the

146

00:06:41,909 --> 00:06:39,919

tip of the robotic arm on a flight

147

00:06:44,309 --> 00:06:41,919

support equipment they'll be working to

148

00:06:45,670 --> 00:06:44,319

unbolt some of the uh some of the bolts

149

00:06:46,830 --> 00:06:45,680

that are keeping it restrained to that

150

00:06:50,150 --> 00:06:46,840

before

151
00:06:53,430 --> 00:06:50,160
a ingressing for today's spacewalk and

152
00:06:55,990 --> 00:06:53,440
they'll address that uh solar array at

153
00:06:58,309 --> 00:06:56,000
the last spacewalk spacewalk 76 this is

154
00:07:00,070 --> 00:06:58,319
a graphic of what the solar array will

155
00:07:01,830 --> 00:07:00,080
look like once it is deployed again it

156
00:07:02,950 --> 00:07:01,840
is in that folded position so this is

157
00:07:05,350 --> 00:07:02,960
what it will look like when it is

158
00:07:06,790 --> 00:07:05,360
unfolded again they have a series of

159
00:07:08,950 --> 00:07:06,800
bolts there are eight bolts that will

160
00:07:11,110 --> 00:07:08,960
keep it mounted to the mounting bracket

161
00:07:13,350 --> 00:07:11,120
and another two bolts that will be used

162
00:07:15,350 --> 00:07:13,360
uh they're they're uh delicate pins

163
00:07:16,390 --> 00:07:15,360

that'll be have to you

164

00:07:18,230 --> 00:07:16,400

the

165

00:07:19,110 --> 00:07:18,240

space walkers will have to use a torque

166

00:07:21,830 --> 00:07:19,120

wrench

167

00:07:31,029 --> 00:07:21,840

to unscrew those and those two pins uh

168

00:07:35,830 --> 00:07:33,350

the primary task of today's spacewalk is

169

00:07:37,430 --> 00:07:35,840

getting that uh solar array on the 2b

170

00:07:39,510 --> 00:07:37,440

channel deployed

171

00:07:40,870 --> 00:07:39,520

that is the number one task for today

172

00:07:43,029 --> 00:07:40,880

and that's will be the first of their

173

00:07:44,710 --> 00:07:43,039

work site they'll of course grab some

174

00:07:46,070 --> 00:07:44,720

crew lock bags that carry some of the

175

00:07:48,469 --> 00:07:46,080

equipment that they'll be using at the

176

00:07:50,230 --> 00:07:48,479

work site including a pistol grip tool

177

00:07:51,749 --> 00:07:50,240

that'll take up a lot

178

00:07:53,830 --> 00:07:51,759

of their work

179

00:07:55,430 --> 00:07:53,840

driving a few bolts and even undriving

180

00:07:58,309 --> 00:07:55,440

some as well as that torque wrench in

181

00:08:00,309 --> 00:07:58,319

order to deploy the solar arrays and

182

00:08:03,350 --> 00:08:00,319

with what time they have they will work

183

00:08:05,430 --> 00:08:03,360

on preparing for the 4b channel again

184

00:08:07,670 --> 00:08:05,440

there is another solar array that's out

185

00:08:09,749 --> 00:08:07,680

on the end of the station's robotic arm

186

00:08:11,430 --> 00:08:09,759

they'll just unscrew some bolts getting

187

00:08:13,350 --> 00:08:11,440

a head start on some of the procedures

188

00:08:14,790 --> 00:08:13,360

needed to move it from the flight

189

00:08:19,189 --> 00:08:14,800

support equipment that's at the end of

190

00:08:22,150 --> 00:08:19,199

that robotic arm over to the 4b channel

191

00:08:24,869 --> 00:08:22,160

now you're seeing uh shane kimbrough ev2

192

00:08:27,510 --> 00:08:24,879

for today getting outfitted with the

193

00:08:31,029 --> 00:08:27,520

safer unit simplified aid for eva rescue

194

00:08:33,589 --> 00:08:31,039

this is the final step uh on the uh

195

00:08:34,790 --> 00:08:33,599

pre-breathe procedures they've for the

196

00:08:37,269 --> 00:08:34,800

past uh

197

00:08:40,389 --> 00:08:37,279

hour and 20 minutes now been executing

198

00:08:42,790 --> 00:08:40,399

pre-breathe uh procedures breathing 100

199

00:08:45,269 --> 00:08:42,800

oxygen and doing some in-suit light

200

00:08:47,430 --> 00:08:45,279

exercise moving their arms fingers legs

201
00:08:50,070 --> 00:08:47,440
uh just purging the nitrogen from their

202
00:08:53,829 --> 00:08:50,080
blood uh and allows them to breathe that

203
00:08:55,350 --> 00:08:53,839
100 oxygen and prevent any symptoms of

204
00:08:56,550 --> 00:08:55,360
the bends

205
00:08:58,070 --> 00:08:56,560
they've been doing that for quite some

206
00:08:59,509 --> 00:08:58,080
time now getting a head start a little

207
00:09:01,269 --> 00:08:59,519
bit ahead on the timeline getting an

208
00:09:03,590 --> 00:09:01,279
early start on getting into the crew

209
00:09:05,990 --> 00:09:03,600
lock today this is the final steps

210
00:09:07,670 --> 00:09:06,000
installing that safer unit before shane

211
00:09:09,590 --> 00:09:07,680
kimbrough makes his way into the crew

212
00:09:24,790 --> 00:09:09,600
lock where tomah pesquet is currently

213
00:09:29,590 --> 00:09:27,750

the irosas or iss roll out solar arrays

214

00:09:31,509 --> 00:09:29,600

that are being used uh

215

00:09:34,389 --> 00:09:31,519

for augmenting the station's power as

216

00:09:35,990 --> 00:09:34,399

part of this planned uh augmentation

217

00:09:38,949 --> 00:09:36,000

plan to get

218

00:09:40,470 --> 00:09:38,959

six new solar arrays outfitted on the

219

00:09:42,310 --> 00:09:40,480

international space station providing

220

00:09:44,790 --> 00:09:42,320

additional power for years to come and

221

00:09:47,350 --> 00:09:44,800

continue those scientific experiments

222

00:09:49,269 --> 00:09:47,360

the same technology will be used at an

223

00:09:50,550 --> 00:09:49,279

outpost that will be orbiting the moon

224

00:09:52,550 --> 00:09:50,560

called the gateway

225

00:09:55,190 --> 00:09:52,560

the solar arrays on the space station

226

00:09:58,070 --> 00:09:55,200

are about 15 feet wide to fit nicely

227

00:09:59,910 --> 00:09:58,080

into the unpressurized trunk of the

228

00:10:02,150 --> 00:09:59,920

spacex dragon that delivered them up

229

00:10:04,550 --> 00:10:02,160

earlier this year the solar arrays that

230

00:10:07,910 --> 00:10:04,560

you see here at this graphic of the

231

00:10:10,389 --> 00:10:07,920

gateway are 32 feet wide more than twice

232

00:10:12,470 --> 00:10:10,399

as wide they'll be providing about 30

233

00:10:14,630 --> 00:10:12,480

kilowatts of power each

234

00:10:16,790 --> 00:10:14,640

when the gateway is in its final

235

00:10:19,110 --> 00:10:16,800

configuration that will be an outpost

236

00:10:21,590 --> 00:10:19,120

around the moon as part of nasa's

237

00:10:24,550 --> 00:10:21,600

artemis program to create a sustained

238

00:10:30,870 --> 00:10:24,560

human presence around and on the lunar

239

00:10:34,630 --> 00:10:32,310

and we'll be getting a taste of that

240

00:10:36,230 --> 00:10:34,640

technology today once the uh two

241

00:10:38,870 --> 00:10:36,240

spacewalking astronauts again that's

242

00:10:40,069 --> 00:10:38,880

toma pesque taking the ev1 position and

243

00:10:42,710 --> 00:10:40,079

shane kimbrough who you're seeing on

244

00:10:45,190 --> 00:10:42,720

your screen now ev2 they'll be deploying

245

00:10:47,350 --> 00:10:45,200

the first of the six planned solar

246

00:11:15,350 --> 00:10:47,360

arrays that will augment the station's

247

00:11:19,110 --> 00:11:17,190

the us os astronauts you see in the

248

00:11:21,110 --> 00:11:19,120

frame aki hoshide off to the left of

249

00:11:23,030 --> 00:11:21,120

your screen and megan mcarthur making

250

00:11:24,790 --> 00:11:23,040

the final push of shane kimbrough into

251
00:11:26,870 --> 00:11:24,800
the crew lock they have a direct line of

252
00:11:28,790 --> 00:11:26,880
communication with the spacewalking

253
00:11:31,190 --> 00:11:28,800
astronauts now they are taking the

254
00:13:49,910 --> 00:11:31,200
primary job of then getting them

255
00:13:54,949 --> 00:13:52,230
with the assistance of three us os

256
00:13:55,829 --> 00:13:54,959
astronauts in the uh station's equipment

257
00:13:58,389 --> 00:13:55,839
lock

258
00:14:00,790 --> 00:13:58,399
uh from left to right mark vande high

259
00:14:02,389 --> 00:14:00,800
aki hoshide and megan mcarthur all

260
00:14:04,389 --> 00:14:02,399
unsuited and aiding the two space

261
00:14:06,230 --> 00:14:04,399
walking astronauts and the final steps

262
00:14:10,310 --> 00:14:06,240
of getting them pushed into the

263
00:14:13,670 --> 00:14:11,990

they'll be moving all of their equipment

264

00:14:15,430 --> 00:14:13,680

and umbilicals and tethers out of the

265

00:14:16,710 --> 00:14:15,440

way making sure they're in a good

266

00:14:18,790 --> 00:14:16,720

configuration

267

00:14:21,350 --> 00:14:18,800

as kimbrough and

268

00:14:24,069 --> 00:14:21,360

pesquet will remain in this position as

269

00:14:26,230 --> 00:14:24,079

the usos astronauts close the hatch

270

00:14:28,269 --> 00:14:26,240

between the equipment lock and the crew

271

00:14:33,030 --> 00:14:28,279

lock the next steps here are the

272

00:14:39,670 --> 00:14:35,110

you'll hear a lot of the tether

273

00:14:43,750 --> 00:14:41,910

identified through the space to ground

274

00:14:45,509 --> 00:14:43,760

communications making sure that tethers

275

00:14:47,350 --> 00:14:45,519

are in a good configuration before they

276

00:14:50,069 --> 00:14:47,360

exit the hatch they'll have a series of

277

00:14:52,069 --> 00:14:50,079

steps to control station's water and

278

00:14:54,870 --> 00:14:52,079

power supply now being provided to the

279

00:14:56,710 --> 00:14:54,880

suits through umbilicals

280

00:14:58,870 --> 00:14:56,720

once they switch the suits over to

281

00:18:36,310 --> 00:14:58,880

battery power that'll be the official

282

00:18:39,270 --> 00:18:37,990

for those just joining you're getting a

283

00:18:41,190 --> 00:18:39,280

live look at the inside of the

284

00:18:42,870 --> 00:18:41,200

international space station the forward

285

00:18:45,750 --> 00:18:42,880

end of the frame here

286

00:18:50,150 --> 00:18:45,760

is uh jaxa astronaut japan aerospace

287

00:18:52,070 --> 00:18:50,160

exploration agency astronaut aki hoshide

288

00:18:54,789 --> 00:18:52,080

behind him is nasa astronaut mark

289

00:18:57,350 --> 00:18:54,799

vanderheide taking the lead as the suit

290

00:18:58,870 --> 00:18:57,360

iv or the lead for getting our two space

291

00:19:01,510 --> 00:18:58,880

walking astronauts ready for today's

292

00:19:04,710 --> 00:19:01,520

spacewalk and in the background uh

293

00:19:06,310 --> 00:19:04,720

pushing the two spacewalks spacewalkers

294

00:19:07,590 --> 00:19:06,320

into the crew lock and getting all of

295

00:19:10,390 --> 00:19:07,600

the tethers

296

00:19:12,390 --> 00:19:10,400

umbilicals and equipment configured uh

297

00:19:14,310 --> 00:19:12,400

before closing the hatches nasa

298

00:19:17,190 --> 00:19:14,320

astronaut megan macarthur our two

299

00:19:19,029 --> 00:19:17,200

spacewalking astronauts today are thomas

300

00:19:20,950 --> 00:19:19,039

of the european space agency taking the

301

00:19:23,830 --> 00:19:20,960

ev1 position he'll be wearing the suit

302

00:19:26,230 --> 00:19:23,840

with the red stripes on the thighs and

303

00:19:27,430 --> 00:19:26,240

nasa astronaut shane kim rowe ev2 he'll

304

00:19:30,070 --> 00:19:27,440

be wearing the suit with the white

305

00:19:32,549 --> 00:19:30,080

stripes or the unmarked suit

306

00:19:34,710 --> 00:19:32,559

both of them will be completing the work

307

00:19:38,470 --> 00:19:34,720

on the 2b power channel there is

308

00:19:40,470 --> 00:19:38,480

currently an irosa iss roll out solar

309

00:19:41,990 --> 00:19:40,480

array that's positioned on a mounting

310

00:19:44,870 --> 00:19:42,000

bracket on the 2b channel that's the

311

00:19:47,270 --> 00:19:44,880

earth facing side on the station's

312

00:19:49,190 --> 00:19:47,280

farthest port truss

313

00:19:50,950 --> 00:19:49,200

it is in a folded position and a

314

00:19:52,470 --> 00:19:50,960

temporary stow position the two space

315

00:19:55,669 --> 00:19:52,480

walking astronauts will complete the

316

00:19:58,710 --> 00:19:55,679

installation unfold it and deploy the 2b

317

00:20:01,029 --> 00:19:58,720

power channel's iss rollout solar array

318

00:20:03,029 --> 00:20:01,039

they'll also begin some of the prep work

319

00:20:04,310 --> 00:20:03,039

to unbolt the solar array that's

320

00:20:06,950 --> 00:20:04,320

currently at the end of the station's

321

00:20:09,990 --> 00:20:06,960

robotic arm that solo array will be used

322

00:20:11,510 --> 00:20:10,000

to upgrade the station's 4b channel

323

00:20:13,270 --> 00:20:11,520

though they won't move the solar array

324

00:20:15,110 --> 00:20:13,280

out to that position during today's

325

00:20:17,990 --> 00:20:15,120

spacewalk they'll do it on a future

326

00:20:21,190 --> 00:20:18,000

spacewalk currently scheduled for next

327

00:20:22,470 --> 00:20:21,200

friday the 25th they'll move the solar

328

00:20:24,870 --> 00:20:22,480

array from the end of the station's

329

00:20:26,789 --> 00:20:24,880

robotic arm to its position on the 4b

330

00:20:28,710 --> 00:20:26,799

channel and deploy it

331

00:20:31,590 --> 00:20:28,720

completing the sequence of upgrading the

332

00:21:04,390 --> 00:20:31,600

p6 truss the two solar arrays you see at

333

00:21:08,710 --> 00:21:07,029

nasa astronaut mark vande high currently

334

00:21:10,470 --> 00:21:08,720

using a communications tool he has a

335

00:21:12,549 --> 00:21:10,480

direct line of communication with two

336

00:21:15,029 --> 00:21:12,559

space walking astronauts making sure

337

00:21:16,870 --> 00:21:15,039

they're all set and ready to go as nasa

338

00:21:18,549 --> 00:21:16,880

astronaut megan macarthur closes the

339

00:21:20,870 --> 00:21:18,559

hatch between the equipment lock and the

340

00:21:22,630 --> 00:21:20,880

crew lock

341

00:21:25,110 --> 00:21:22,640

now that everything is configured on the

342

00:21:26,470 --> 00:21:25,120

back end of that hatch all their tethers

343

00:21:28,310 --> 00:21:26,480

are in a good configuration the

344

00:21:30,149 --> 00:21:28,320

umbilicals are out of the way and they

345

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

have all the equipment that they need

346

00:21:34,350 --> 00:21:32,159

for today's spacewalk uh they'll be

347

00:21:40,950 --> 00:21:34,360

closing the hatch and entering into the

348

00:21:44,549 --> 00:21:42,950

then i will take the lead of walking

349

00:21:48,470 --> 00:21:44,559

those astronauts through the first part

350

00:21:50,789 --> 00:21:48,480

of the depressurization sequence uh

351
00:21:53,190 --> 00:21:50,799
from here in the room jenny cydie will

352
00:21:54,789 --> 00:21:53,200
take the role of the ground iv you'll be

353
00:21:57,110 --> 00:21:54,799
hearing her voice from here in mission

354
00:21:58,870 --> 00:21:57,120
control houston canadian space agency

355
00:22:00,630 --> 00:21:58,880
astronaut she'll be the one walking our

356
00:22:02,470 --> 00:22:00,640
two spacewalking astronauts through

357
00:22:04,070 --> 00:22:02,480
today's steps you're getting a look at

358
00:22:05,990 --> 00:22:04,080
the inside of the international space

359
00:22:08,470 --> 00:22:06,000
station flight control room where there

360
00:22:10,149 --> 00:22:08,480
is currently a handover period

361
00:22:12,149 --> 00:22:10,159
flight director adi boulos has been

362
00:22:13,909 --> 00:22:12,159
working with the flight control teams

363
00:22:16,149 --> 00:22:13,919

getting our two spacewalking astronauts

364

00:22:18,230 --> 00:22:16,159

ready for today's spacewalk he's uh

365

00:22:19,990 --> 00:22:18,240

currently about to hand it over to uh

366

00:22:22,149 --> 00:22:20,000

flight director ron spencer you see at

367

00:22:25,029 --> 00:22:22,159

the far right of your screen he'll be

368

00:22:27,510 --> 00:22:25,039

leading the teams for today's spacewalk

369

00:22:29,909 --> 00:22:27,520

josh kootrick is the today's uh capcom

370

00:22:32,230 --> 00:22:29,919

he was leading the uh

371

00:22:33,750 --> 00:22:32,240

the astronauts through the first part of

372

00:22:36,070 --> 00:22:33,760

their procedures

373

00:22:37,990 --> 00:22:36,080

and you see jenny seidi there next to

374

00:22:39,430 --> 00:22:38,000

josh kootrick at the cap composition

375

00:22:41,270 --> 00:22:39,440

standing up

376

00:22:43,190 --> 00:22:41,280

she will be the voice you're hearing

377

00:22:45,510 --> 00:22:43,200

from here in mission control houston her

378

00:22:47,590 --> 00:22:45,520

job is the ground iv it's the voice of

379

00:22:49,270 --> 00:22:47,600

mission control as all the teams are

380

00:22:51,270 --> 00:22:49,280

working through the various procedures

381

00:22:53,510 --> 00:22:51,280

of today's spacewalk she'll be the one

382

00:22:55,909 --> 00:22:53,520

translating that up to the two walking

383

00:22:57,669 --> 00:22:55,919

astronauts again toma pesque from the

384

00:23:27,110 --> 00:22:57,679

european space agency and shane

385

00:23:34,630 --> 00:23:29,909

this is an airlock on one and steps 72

386

00:23:38,789 --> 00:23:37,190

copy that mark we're gonna put uh some

387

00:23:43,110 --> 00:23:38,799

sequence steps into work and i'll give

388

00:23:43,120 --> 00:23:54,789

okay we're standing by in step 77. april

389

00:23:59,430 --> 00:23:57,029

going back to the room correction uh

390

00:24:01,510 --> 00:23:59,440

flight director marcus flores is the

391

00:24:04,230 --> 00:24:01,520

flight director of the orbit one shift

392

00:24:06,310 --> 00:24:04,240

he was leading the teams uh for walking

393

00:24:07,990 --> 00:24:06,320

the astronauts through the pre-breathe

394

00:24:10,070 --> 00:24:08,000

procedures getting them set up and ready

395

00:24:12,149 --> 00:24:10,080

to go into the crew lock which is now

396

00:24:15,110 --> 00:24:12,159

the hatches is closed he's handing over

397

00:24:17,269 --> 00:24:15,120

to flight director ron spencer

398

00:24:19,909 --> 00:24:17,279

you see uh nasa astronaut drew feustel

399

00:24:21,830 --> 00:24:19,919

next to jenny seidi jenny again is the

400

00:24:23,990 --> 00:24:21,840

ground iv for today her voice will be

401
00:24:25,669 --> 00:24:24,000
used uh to communicate all the

402
00:24:27,669 --> 00:24:25,679
procedures up to the two space walking

403
00:24:29,669 --> 00:24:27,679
astronauts drew feustel will be the

404
00:24:31,510 --> 00:24:29,679
capcom it'll be his job to talk to the

405
00:26:44,470 --> 00:24:31,520
crew on the inside of the international

406
00:27:05,269 --> 00:26:47,510
station houston one step 76 is complete

407
00:27:10,630 --> 00:27:07,669
the top power is off

408
00:27:14,390 --> 00:27:10,640
check the depress pump enable led is on

409
00:27:15,350 --> 00:27:14,400
enable led is on on the defense pump

410
00:27:17,430 --> 00:27:15,360
copy

411
00:27:22,630 --> 00:27:17,440
houston interlock on one looking for

412
00:27:22,640 --> 00:27:33,430
we got this down by one

413
00:27:36,950 --> 00:27:35,430

and station houston probably be uh just

414

00:27:39,510 --> 00:27:36,960

a few more minutes we're going through

415

00:27:41,510 --> 00:27:39,520

the go for for a depressed poll here

416

00:27:42,870 --> 00:27:41,520

momentarily and then we'll be giving you

417

00:27:54,470 --> 00:27:42,880

the new team to take you through the

418

00:27:58,230 --> 00:27:55,669

on your screen you're seeing nasa

419

00:27:59,830 --> 00:27:58,240

astronaut uh mark vanda high he's uh

420

00:28:02,230 --> 00:27:59,840

walking the crew on the other side of

421

00:28:04,389 --> 00:28:02,240

the hatch that's uh tomah pesquet and

422

00:28:05,669 --> 00:28:04,399

shane kimbrough through the steps to get

423

00:28:07,430 --> 00:28:05,679

ready for opening the hatch and

424

00:28:09,110 --> 00:28:07,440

beginning today's spacewalk on the

425

00:28:11,190 --> 00:28:09,120

ground the voice you were hearing was

426
00:28:13,590 --> 00:28:11,200
joshua kootrick he's the capcom for the

427
00:28:16,310 --> 00:28:13,600
orbit one teams the teams now are

428
00:28:18,230 --> 00:28:16,320
currently pulling a go4d depress making

429
00:28:20,310 --> 00:28:18,240
sure the suit the station and all the

430
00:28:22,310 --> 00:28:20,320
procedures all the teams are ready for

431
00:28:23,909 --> 00:28:22,320
depressurizing the station's uh

432
00:28:25,510 --> 00:28:23,919
vestibule on the other side of that

433
00:28:27,830 --> 00:28:25,520
hatch the crew lock

434
00:28:29,029 --> 00:28:27,840
that won't begin today's spacewalk

435
00:28:31,430 --> 00:28:29,039
officially

436
00:28:32,870 --> 00:28:31,440
it'll depressurize down to five pounds

437
00:28:34,310 --> 00:28:32,880
per square inch

438
00:28:36,870 --> 00:28:34,320

and then uh

439

00:28:38,870 --> 00:28:36,880

hold at five psi make sure that there

440

00:28:40,149 --> 00:28:38,880

are no leaks they'll do a short leak

441

00:28:42,149 --> 00:28:40,159

check make sure everything is good to

442

00:28:43,830 --> 00:28:42,159

proceed down to vacuum and they'll begin

443

00:29:24,470 --> 00:28:43,840

today's spacewalk once they switch to

444

00:29:27,990 --> 00:29:25,990

and the teams here in mission control

445

00:29:30,870 --> 00:29:28,000

for the orbit one team pulled go for

446

00:29:32,470 --> 00:29:30,880

proceeding uh with depressurization

447

00:29:34,310 --> 00:29:32,480

they'll now they're now in the middle of

448

00:29:36,870 --> 00:29:34,320

a handover period to hand over to the

449

00:29:38,470 --> 00:29:36,880

orbit two team or flight director ron

450

00:29:40,870 --> 00:29:38,480

spencer will lead the teams through the

451
00:29:42,789 --> 00:29:40,880
duration of today's six and a half hour

452
00:29:45,830 --> 00:29:42,799
planned spacewalk

453
00:29:48,389 --> 00:29:45,840
to finalize the installation and deploy

454
00:29:50,470 --> 00:29:48,399
a solar array the irosa that's out on

455
00:30:47,990 --> 00:29:50,480
the power on the station's 2b power

456
00:30:51,830 --> 00:30:49,750
again on board the international space

457
00:30:53,830 --> 00:30:51,840
station nasa astronauts mark vande high

458
00:30:55,669 --> 00:30:53,840
there in the foreground and in the

459
00:30:57,350 --> 00:30:55,679
background uh nasa astronaut megan

460
00:30:59,029 --> 00:30:57,360
macarthur waiting patiently for the

461
00:31:00,630 --> 00:30:59,039
teams here in mission control houston to

462
00:31:02,830 --> 00:31:00,640
hand over to the teams that are taking

463
00:31:05,269 --> 00:31:02,840

over for the duration of today's

464

00:31:06,470 --> 00:31:05,279

spacewalk led by flight director ron

465

00:31:09,350 --> 00:31:06,480

spencer

466

00:31:10,950 --> 00:31:09,360

there is a team here uh ready to take

467

00:31:13,190 --> 00:31:10,960

our two space walking astronauts

468

00:31:14,549 --> 00:31:13,200

tomoposque and shane kimbrough through

469

00:31:17,269 --> 00:31:14,559

the six and a half hour planned

470

00:31:19,110 --> 00:31:17,279

spacewalk to finalize the deployment uh

471

00:31:20,789 --> 00:31:19,120

the installation and deployment of a

472

00:31:23,110 --> 00:31:20,799

soil array that's out of the 2b power

473

00:31:24,789 --> 00:31:23,120

channel

474

00:31:27,430 --> 00:31:24,799

they will take the two space walking

475

00:31:29,990 --> 00:31:27,440

astronauts uh to through the first the

476
00:31:33,029 --> 00:31:30,000
final steps to depressurize uh the

477
00:31:34,630 --> 00:31:33,039
station's uh or the crew locks vestibule

478
00:31:36,310 --> 00:31:34,640
uh that's on the other side of that

479
00:31:39,110 --> 00:31:36,320
hatch the crew lock itself will

480
00:31:40,950 --> 00:31:39,120
depressurize from uh the same pressure

481
00:31:43,669 --> 00:31:40,960
of the international space station just

482
00:31:46,310 --> 00:31:43,679
above 14 pounds per square inch about

483
00:31:48,549 --> 00:31:46,320
14.2 is what it's sitting at now and

484
00:31:50,950 --> 00:31:48,559
they'll bring it down to five pounds per

485
00:31:59,029 --> 00:31:50,960
square inch five psi to perform a leak

486
00:32:03,029 --> 00:32:00,789
the spacewalk will officially begin when

487
00:32:04,950 --> 00:32:03,039
the suits are switched to battery power

488
00:32:07,590 --> 00:32:04,960

some of the configuration you you're

489

00:32:10,310 --> 00:32:07,600

hearing uh from the crew or that you

490

00:32:12,549 --> 00:32:10,320

have heard recently from the crew uh was

491

00:32:15,509 --> 00:32:12,559

configuring some of the switches that

492

00:32:17,750 --> 00:32:15,519

are on the umbilical interface assembly

493

00:32:19,430 --> 00:32:17,760

this is on the inside of the crew lock

494

00:32:20,870 --> 00:32:19,440

where the two spacewalking astronauts

495

00:32:23,110 --> 00:32:20,880

are now

496

00:32:25,269 --> 00:32:23,120

this is uh their suits now are connected

497

00:32:28,070 --> 00:32:25,279

by umbilical to the international space

498

00:32:29,269 --> 00:32:28,080

station itself providing data and power

499

00:32:31,509 --> 00:32:29,279

some cooling

500

00:32:33,350 --> 00:32:31,519

all through that umbilical unit

501
00:32:34,070 --> 00:32:33,360
once they switch to battery power they

502
00:32:36,549 --> 00:32:34,080
will

503
00:32:39,590 --> 00:32:36,559
disconnect from relying on the station's

504
00:32:41,350 --> 00:32:39,600
data power and water systems

505
00:32:43,029 --> 00:32:41,360
and they'll be free to move about the

506
00:33:45,669 --> 00:32:43,039
outside of the international space

507
00:33:45,679 --> 00:34:52,790
hmm

508
00:34:56,069 --> 00:34:54,550
for those just tuning in uh nasa

509
00:34:57,910 --> 00:34:56,079
astronaut mark vanderhoff you see the

510
00:35:00,069 --> 00:34:57,920
left of your screen and the foreground

511
00:35:03,349 --> 00:35:00,079
and nasa astronaut megan mcarthur

512
00:35:05,349 --> 00:35:03,359
patiently waiting uh for the uh

513
00:35:07,750 --> 00:35:05,359

uh ground teams here in mission control

514

00:35:10,390 --> 00:35:07,760

houston to hand over to the orbit two

515

00:35:12,550 --> 00:35:10,400

teams led by flight director ron spencer

516

00:35:15,190 --> 00:35:12,560

it'll be the teams here that will lead

517

00:35:17,430 --> 00:35:15,200

uh the space walking astronauts and the

518

00:35:19,109 --> 00:35:17,440

crew inside through the remainder of

519

00:35:20,790 --> 00:35:19,119

today's spacewalk and of course all of

520

00:35:25,510 --> 00:35:20,800

the activities happening inside the

521

00:35:28,950 --> 00:35:26,790

teams should be wrapping up their

522

00:35:31,589 --> 00:35:28,960

handover procedures now we'll be hearing

523

00:35:33,270 --> 00:35:31,599

some calls up to the crew on board the

524

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

international space station handing over

525

00:35:36,950 --> 00:35:35,200

to the new teams and the crew will be

526
00:35:38,630 --> 00:35:36,960
able to continue walking the two space

527
00:35:40,950 --> 00:35:38,640
walking astronauts on the other side of

528
00:35:42,310 --> 00:35:40,960
the hatch the hatch is now closed uh on

529
00:35:44,790 --> 00:35:42,320
the other side of that hatch tomo

530
00:35:47,109 --> 00:35:44,800
pesquet and shane kimbrough also

531
00:35:49,430 --> 00:35:47,119
patiently waiting for the next steps

532
00:35:51,910 --> 00:35:49,440
to configure their suits using the

533
00:35:53,109 --> 00:35:51,920
umbilical interface assembly

534
00:35:56,710 --> 00:35:53,119
to

535
00:35:58,790 --> 00:35:56,720
their suits and make sure everything is

536
00:36:01,349 --> 00:35:58,800
set as the uh

537
00:36:04,390 --> 00:36:01,359
the crew lock depressurizes once it's

538
00:36:07,670 --> 00:36:04,400

given a go ground teams have pulled

539

00:36:10,069 --> 00:36:07,680

and our go to begin that depressuris

540

00:36:12,550 --> 00:36:10,079

depressurization sequence which is set

541

00:36:14,230 --> 00:36:12,560

to begin shortly after communications is

542

00:36:55,349 --> 00:36:14,240

re-established with the crew patiently

543

00:37:03,910 --> 00:36:57,910

ella houston on one you have a go

544

00:37:08,950 --> 00:37:06,069

see jenny go into step 80 we will step

545

00:37:25,190 --> 00:37:08,960

onto the crew ic press card

546

00:37:29,270 --> 00:37:26,710

as you heard we have a go for the crew

547

00:37:31,270 --> 00:37:29,280

lock uh depressed cue card so we'll

548

00:37:33,030 --> 00:37:31,280

start in step one

549

00:37:35,030 --> 00:37:33,040

and i'll take you through to step 14

550

00:37:37,270 --> 00:37:35,040

before handing over to jenny so in step

551
00:37:40,069 --> 00:37:37,280
one shane on the uia switch the

552
00:37:42,870 --> 00:37:40,079
depressed pump power to on you're going

553
00:37:47,270 --> 00:37:42,880
to wait 10 seconds for complete startup

554
00:37:51,990 --> 00:37:49,349
after 10 seconds as you last you can

555
00:37:55,109 --> 00:37:52,000
take the depressed pump man iso valve to

556
00:37:56,470 --> 00:37:55,119
open expect an alert tone

557
00:38:00,630 --> 00:37:56,480
here there's 10 seconds i'm going to

558
00:38:04,150 --> 00:38:02,230
it's open

559
00:38:09,190 --> 00:38:04,160
okay you can expect an alert tone

560
00:38:22,870 --> 00:38:09,200
monitor your suit gauge is less than 5.5

561
00:38:27,750 --> 00:38:25,750
and with just a few short steps and uh

562
00:38:29,990 --> 00:38:27,760
handing over to the orbit two teams you

563
00:38:32,069 --> 00:38:30,000

heard jenny sidey the ground iv from

564

00:38:33,829 --> 00:38:32,079

here in mission control houston she gave

565

00:38:35,430 --> 00:38:33,839

the calm over to nasa astronaut megan

566

00:38:37,670 --> 00:38:35,440

macarthur who's walking the astronauts

567

00:38:40,870 --> 00:38:37,680

for the first couple of steps

568

00:38:43,270 --> 00:38:40,880

uh crew lock depressurization has begun

569

00:38:45,270 --> 00:38:43,280

we're now down to 13 pounds per square

570

00:38:47,589 --> 00:38:45,280

inch we're heading down to five once we

571

00:38:50,230 --> 00:38:47,599

get to five pounds per square inch

572

00:38:51,750 --> 00:38:50,240

the crew will initiate a hold and will

573

00:38:53,510 --> 00:38:51,760

perform a leak check make sure

574

00:39:53,589 --> 00:38:53,520

everything is good to proceed down to

575

00:39:56,390 --> 00:39:55,589

now entering into a short hand over

576
00:39:58,390 --> 00:39:56,400
period

577
00:40:00,630 --> 00:39:58,400
we'll be seeing incremental dropouts of

578
00:40:02,550 --> 00:40:00,640
station video and audio

579
00:40:04,790 --> 00:40:02,560
as we receive those communications

580
00:40:08,340 --> 00:40:04,800
through the tdrs tracking and data relay

581
00:40:08,350 --> 00:40:11,990
[Music]

582
00:40:15,750 --> 00:40:14,630
still getting some audio the uh crew

583
00:40:17,829 --> 00:40:15,760
lock

584
00:40:20,790 --> 00:40:17,839
where the two space walking astronauts

585
00:40:23,030 --> 00:40:20,800
are now is currently depressurizing

586
00:40:24,790 --> 00:40:23,040
we're just under 11 pounds per square

587
00:40:26,790 --> 00:40:24,800
inch at this time continuing to look

588
00:40:58,230 --> 00:40:26,800

good as we proceed down to five pounds

589

00:41:02,150 --> 00:41:00,069

this audio you're hearing is coming from

590

00:41:04,390 --> 00:41:02,160

the international space station that is

591

00:41:06,950 --> 00:41:04,400

what depressurization sounds like we're

592

00:41:08,870 --> 00:41:06,960

looking good now inside 10 pounds per

593

00:41:34,470 --> 00:41:08,880

square inch less than 10

594

00:41:34,480 --> 00:41:48,710

[Applause]

595

00:41:48,720 --> 00:42:09,670

it's around five

596

00:42:09,680 --> 00:42:53,910

i agree

597

00:42:53,920 --> 00:43:01,270

uh

598

00:43:06,309 --> 00:43:04,309

turn my lights on so much yeah good idea

599

00:43:10,710 --> 00:43:06,319

i was waiting a little bit but

600

00:43:10,720 --> 00:43:27,470

there's an moles here

601
00:43:41,589 --> 00:43:29,829

[Music]

602
00:43:46,309 --> 00:43:43,750
come on shane when the crew lock is at 6

603
00:43:48,870 --> 00:43:46,319
psi you can expect an alert tone and

604
00:43:50,950 --> 00:43:48,880
when the crew lock is at 5 psi shane you

605
00:43:58,550 --> 00:43:50,960
will take the depressed pump man iso

606
00:44:02,710 --> 00:44:00,710
so everything looking good as the uh

607
00:44:04,710 --> 00:44:02,720
crew lock continues to depressurize

608
00:44:06,309 --> 00:44:04,720
we're now less than seven and a half

609
00:44:08,069 --> 00:44:06,319
pounds per square inch you heard the

610
00:44:09,750 --> 00:44:08,079
calls from megan mcarthur inside the

611
00:44:11,910 --> 00:44:09,760
equipment lock the crew will have to

612
00:44:13,510 --> 00:44:11,920
manually switch some of those valves to

613
00:44:15,349 --> 00:44:13,520

hold the pressure at five pounds per

614

00:44:16,950 --> 00:44:15,359

square inch that's a leak check to make

615

00:44:20,069 --> 00:44:16,960

sure everything is good

616

00:44:37,510 --> 00:44:20,079

before continuing to depressurize that

617

00:44:37,520 --> 00:46:37,069

festival

618

00:46:40,309 --> 00:46:38,950

depressurization of the crew lock

619

00:46:42,390 --> 00:46:40,319

continues to look good we're now a

620

00:46:44,550 --> 00:46:42,400

little less than six pounds per square

621

00:46:45,670 --> 00:46:44,560

inch we should be hearing a call from

622

00:46:47,910 --> 00:46:45,680

the crew that they've switched the

623

00:46:49,829 --> 00:46:47,920

valves momentarily

624

00:46:51,750 --> 00:46:49,839

this will hold the pressure of the crew

625

00:47:35,829 --> 00:46:51,760

lock at five pounds per square inch for

626

00:47:35,839 --> 00:48:00,790

this is one

627

00:48:04,470 --> 00:48:02,630

question mark is displayed

628

00:48:07,109 --> 00:48:04,480

then yes for two seconds and follow the

629

00:48:13,670 --> 00:48:07,119

displayed instructions

630

00:48:21,270 --> 00:48:16,549

checking progress okay

631

00:48:25,030 --> 00:48:23,030

and confirmed we're holding just a

632

00:48:29,270 --> 00:48:25,040

little bit more than five pounds per

633

00:48:32,630 --> 00:48:30,710

crew will now perform a leak check make

634

00:48:34,790 --> 00:48:32,640

sure the pressure inside the crew lock

635

00:48:36,630 --> 00:48:34,800

is holding make sure everything is good

636

00:48:38,630 --> 00:48:36,640

and all the systems are working before

637

00:48:42,390 --> 00:48:38,640

they continue to depressurize the crew

638

00:48:45,510 --> 00:48:43,670

throughout the duration of today's

639

00:48:48,549 --> 00:48:45,520

spacewalk we'll be taking questions

640

00:48:49,910 --> 00:48:48,559

please use the hashtag ask nasa on your

641

00:48:51,829 --> 00:48:49,920

favorite platform wherever you are

642

00:48:53,510 --> 00:48:51,839

watching to submit questions uh

643

00:48:55,670 --> 00:48:53,520

throughout the duration of today's

644

00:48:58,150 --> 00:48:55,680

planned six and a half six and a half

645

00:48:59,670 --> 00:48:58,160

hour expedition

646

00:49:01,510 --> 00:48:59,680

the first question comes from bob on

647

00:49:05,109 --> 00:49:01,520

twitter who's asking how long to

648

00:49:08,069 --> 00:49:05,119

pressurize before the hatch open

649

00:49:09,990 --> 00:49:08,079

as you saw depressurization from 14

650

00:49:18,950 --> 00:49:10,000

pounds per square inch to 5 pounds per

651
00:49:23,670 --> 00:49:20,549
league check complete was only a matter

652
00:49:28,150 --> 00:49:25,829
check complete and o2 activator is in

653
00:49:42,150 --> 00:49:28,160
eva it's going to be gaming i'm not yet

654
00:49:42,160 --> 00:49:46,590
this is

655
00:49:46,600 --> 00:49:53,910
[Music]

656
00:49:57,670 --> 00:49:55,349
crew continuing to work through those

657
00:49:59,589 --> 00:49:57,680
steps depressurization sequence is just

658
00:50:01,349 --> 00:49:59,599
a matter of minutes the depressurization

659
00:50:03,670 --> 00:50:01,359
from five pounds per square inch down to

660
00:50:05,270 --> 00:50:03,680
zero uh will be a little bit slower then

661
00:50:06,870 --> 00:50:05,280
they take it nice and slow but really

662
00:50:09,430 --> 00:50:06,880
that whole sequence is just a matter of

663
00:50:11,270 --> 00:50:09,440

minutes again the official start time of

664

00:50:15,030 --> 00:50:11,280

today's spacewalk will begin when they

665

00:50:16,630 --> 00:50:15,040

switch the suits to battery power

666

00:50:19,670 --> 00:50:16,640

another question from mark on twitter

667

00:50:23,030 --> 00:50:19,680

who's asking did they change the uh

668

00:50:26,470 --> 00:50:23,040

shane kimbrough's suit

669

00:50:28,470 --> 00:50:26,480

the ev2 has o2 actuator in eva

670

00:50:30,790 --> 00:50:28,480

so senior next is to take the depress

671

00:50:35,430 --> 00:50:30,800

pump man iso valve open and expect an

672

00:50:47,190 --> 00:50:37,430

hey i'm taking the emergency mpev to

673

00:50:47,200 --> 00:50:54,390

is

674

00:50:58,309 --> 00:50:56,069

and with a good leak check just a matter

675

00:51:00,309 --> 00:50:58,319

of minutes depressurization of the crew

676
00:51:02,309 --> 00:51:00,319
lock has resumed we're now less than

677
00:51:04,790 --> 00:51:02,319
five pounds per square inch this will be

678
00:51:06,870 --> 00:51:04,800
a little bit slower of a depress to get

679
00:51:09,750 --> 00:51:06,880
down to vacuum

680
00:51:11,750 --> 00:51:09,760
but once we get to about uh a half a

681
00:51:13,990 --> 00:51:11,760
pound of square inch they'll be able to

682
00:51:15,349 --> 00:51:14,000
get the go to open the hatch and the

683
00:51:17,910 --> 00:51:15,359
thermal cover

684
00:51:19,990 --> 00:51:17,920
and egress or exit the crew lock to

685
00:51:21,510 --> 00:51:20,000
begin today's spacewalk but the official

686
00:51:23,990 --> 00:51:21,520
start time again is when they switch the

687
00:51:26,390 --> 00:51:24,000
suits to battery power another question

688
00:51:28,069 --> 00:51:26,400

from mark on twitter asks about shane

689

00:51:30,549 --> 00:51:28,079

kimbrough's suit did it change from the

690

00:51:32,870 --> 00:51:30,559

spacewalk on wednesday the answer is yes

691

00:52:21,430 --> 00:51:32,880

on wednesday the suit that he used was

692

00:52:21,440 --> 00:52:40,790

okay

693

00:52:45,670 --> 00:52:42,630

depressurization of the crew lock

694

00:52:48,790 --> 00:52:45,680

looking good we're now less than 3.5 psi

695

00:52:58,950 --> 00:52:48,800

we're going to about 0.5 psi

696

00:53:04,870 --> 00:53:01,670

you'll hear a series of uh steps read

697

00:53:07,190 --> 00:53:04,880

from uh megan mcarthur who is currently

698

00:53:09,349 --> 00:53:07,200

has the comms here on your screen

699

00:53:11,510 --> 00:53:09,359

reading the step-by-step procedures to

700

00:53:13,109 --> 00:53:11,520

the crew on the other side of the hatch

701
00:53:15,750 --> 00:53:13,119
they'll be flicking some pumps and

702
00:53:17,829 --> 00:53:15,760
valves ultimately getting to switching

703
00:53:19,910 --> 00:53:17,839
the suits to battery power again that's

704
00:53:22,230 --> 00:53:19,920
when the official start time of today's

705
00:53:24,390 --> 00:53:22,240
spacewalk will be

706
00:53:27,670 --> 00:53:24,400
okay shane your next will be when the

707
00:53:29,750 --> 00:53:27,680
crew lock is at 2.0 tsi you're going to

708
00:53:32,549 --> 00:53:29,760
take the depressed pump man iso valve to

709
00:54:01,829 --> 00:53:32,559
close kathy

710
00:54:01,839 --> 00:54:17,430
hello

711
00:54:17,440 --> 00:54:33,910
foreign

712
00:54:38,630 --> 00:54:35,910
psi okay

713
00:54:40,789 --> 00:54:38,640

the first frontman is closed i'll be

714

00:54:45,270 --> 00:54:40,799

saying it's closed on the uia you can

715

00:54:47,589 --> 00:54:45,280

switch depress pump power to off offs

716

00:54:49,030 --> 00:54:47,599

deep press pump power is off

717

00:54:53,109 --> 00:54:49,040

copy it's off you can report your

718

00:54:55,589 --> 00:54:53,119

initial tether configuration for egress

719

00:54:58,150 --> 00:54:55,599

all right so if i start from

720

00:55:00,150 --> 00:54:58,160

my left ceiling extender i see

721

00:55:02,150 --> 00:55:00,160

my red hook

722

00:55:03,589 --> 00:55:02,160

close and lock

723

00:55:05,430 --> 00:55:03,599

back on black

724

00:55:07,030 --> 00:55:05,440

make sure my red wheel

725

00:55:10,069 --> 00:55:07,040

unlocked

726

00:55:12,390 --> 00:55:10,079

and i have ev2's yellow hook

727

00:55:15,270 --> 00:55:12,400

closed and locked black on black on my

728

00:55:18,069 --> 00:55:15,280

red wheel sc ev2 red wheel

729

00:55:19,190 --> 00:55:18,079

is unmarked

730

00:55:20,870 --> 00:55:19,200

red hook

731

00:55:23,430 --> 00:55:20,880

he's only the left

732

00:55:26,309 --> 00:55:23,440

hearing steering extender closed and

733

00:55:28,069 --> 00:55:26,319

locked backwards locked

734

00:55:30,789 --> 00:55:28,079

okay and i have a right waist feather

735

00:55:33,510 --> 00:55:30,799

connected to the airlock waist feather

736

00:55:49,109 --> 00:55:33,520

connected to the airlock d-ring extender

737

00:55:52,630 --> 00:55:50,950

okay we copy your config and that's a

738

00:55:55,030 --> 00:55:52,640

good config and i'm sure houston will be

739

00:55:56,950 --> 00:55:55,040

checking in with you again

740

00:55:59,510 --> 00:55:56,960

and tomorrow as you know when the

741

00:56:06,950 --> 00:55:59,520

crewlock dpdt is around zero you guys

742

00:56:06,960 --> 00:56:11,910

[Applause]

743

00:56:15,829 --> 00:56:13,670

when you crank it open you're going to

744

00:56:19,910 --> 00:56:15,839

wait a second before opening and sewing

745

00:56:19,920 --> 00:56:25,270

you can't see yourself engaged right now

746

00:56:25,280 --> 00:56:51,190

hmm

747

00:56:55,589 --> 00:56:52,950

everything continuing to proceed as

748

00:56:57,349 --> 00:56:55,599

planned and on one we've checked the

749

00:56:59,109 --> 00:56:57,359

tether config we agree it's a good

750

00:57:01,109 --> 00:56:59,119

config continuing with the depress we

751
00:57:02,549 --> 00:57:01,119
can expect about five minutes more and

752
00:57:10,630 --> 00:57:02,559
we concur with your good words about the

753
00:57:10,640 --> 00:57:22,150
thank you

754
00:57:27,589 --> 00:57:24,390
thanks megan and mark and nike really

755
00:57:29,910 --> 00:57:27,599
nice work today again your house ready

756
00:57:33,030 --> 00:57:29,920
um thanks to all these ones

757
00:57:34,789 --> 00:57:33,040
and josh and uh welcome on board jenny

758
00:57:38,789 --> 00:57:34,799
looks like we're going from a canadian

759
00:57:38,799 --> 00:57:46,390
thanks go canada

760
00:57:51,030 --> 00:57:48,470
the voice from here in mission control

761
00:57:52,549 --> 00:57:51,040
jenny seidi will be the ground iv she'll

762
00:57:54,789 --> 00:57:52,559
be the voice here for mission control

763
00:57:57,349 --> 00:57:54,799

walking our two space walking astronauts

764

00:57:59,510 --> 00:57:57,359

uh through their procedures from the

765

00:58:02,390 --> 00:57:59,520

canadian space agency of the newest

766

00:58:04,390 --> 00:58:02,400

class of astronauts brought on in 2017

767

00:58:06,390 --> 00:58:04,400

she'll be walking the european space

768

00:58:08,069 --> 00:58:06,400

agency astronaut tomah pesquet and nasa

769

00:58:09,670 --> 00:58:08,079

astronaut shane kimbrough through

770

00:58:12,630 --> 00:58:09,680

today's procedures

771

00:58:14,390 --> 00:58:12,640

to install and deploy a solar array

772

00:58:39,589 --> 00:58:14,400

that's currently positioned on the 2b

773

00:58:44,150 --> 00:58:41,750

airlock houston just a heads up you guys

774

00:58:52,069 --> 00:58:44,160

have a go at any time for uh step 81 to

775

00:58:52,079 --> 00:59:32,549

we copy thanks

776

00:59:35,990 --> 00:59:34,230

as mentioned the depressurization

777

00:59:38,630 --> 00:59:36,000

process uh

778

00:59:41,349 --> 00:59:38,640

on the back end uh after the leak check

779

00:59:43,430 --> 00:59:41,359

is a bit slower slow and steady uh as it

780

00:59:46,470 --> 00:59:43,440

gets down to vacuum or now just a little

781

00:59:49,270 --> 00:59:46,480

less than 1.3 pounds per square inch the

782

00:59:51,510 --> 00:59:49,280

next series of steps will be right at

783

00:59:52,710 --> 00:59:51,520

about a half a pound of square per

784

00:59:54,230 --> 00:59:52,720

square inch

785

00:59:55,990 --> 00:59:54,240

they'll go through the next procedure

786

00:59:58,230 --> 00:59:56,000

procedures to switch their suits to

787

01:00:00,069 --> 00:59:58,240

battery power and that'll begin uh

788

01:00:01,910 --> 01:00:00,079

today's spacewalk officially it will

789

01:00:04,069 --> 01:00:01,920

give you that time uh once it is

790

01:00:06,069 --> 01:00:04,079

reported in the meantime keep sending in

791

01:00:07,750 --> 01:00:06,079

your questions using the hashtag ask

792

01:00:10,150 --> 01:00:07,760

nasa on your social favorite social

793

01:00:11,910 --> 01:00:10,160

media platform uh as we continue to go

794

01:00:13,829 --> 01:00:11,920

through today's procedures getting ready

795

01:00:22,470 --> 01:00:13,839

to kick off a six and a half hour space

796

01:00:26,710 --> 01:00:24,870

the first question comes from richa tosh

797

01:00:30,549 --> 01:00:26,720

who's asking why do we need to

798

01:00:31,910 --> 01:00:30,559

depressurize before going to space

799

01:00:34,150 --> 01:00:31,920

right now you're looking at the inside

800

01:00:36,069 --> 01:00:34,160

of the equipment lock where uh nasa

801
01:00:38,309 --> 01:00:36,079
astronauts megan macarthur and mark van

802
01:00:40,630 --> 01:00:38,319
dyke are sitting comfortably at about

803
01:00:42,390 --> 01:00:40,640
the same pressure you would find at sea

804
01:00:45,670 --> 01:00:42,400
level on earth just a little more than

805
01:00:48,069 --> 01:00:45,680
14 pounds per square inch space uh goes

806
01:00:51,589 --> 01:00:48,079
down to vacuum

807
01:00:53,829 --> 01:00:51,599
but the human body uh uh is meant uh to

808
01:00:55,030 --> 01:00:53,839
operate operate in a pressurized

809
01:00:56,710 --> 01:00:55,040
environment

810
01:00:58,390 --> 01:00:56,720
so we make it nice and comfortable

811
01:00:59,430 --> 01:00:58,400
inside the international space station

812
01:01:00,950 --> 01:00:59,440
for them

813
01:01:02,549 --> 01:01:00,960

since they're going outside we try to

814

01:01:04,309 --> 01:01:02,559

make them comfortable as well so we put

815

01:01:06,630 --> 01:01:04,319

them in a space suit though the

816

01:01:09,750 --> 01:01:06,640

spacesuits themselves operate

817

01:01:12,630 --> 01:01:09,760

at about a little less than four pounds

818

01:01:14,950 --> 01:01:12,640

or 5 pounds rather per square inch once

819

01:01:17,030 --> 01:01:14,960

they get out of the hatch that allows a

820

01:01:18,710 --> 01:01:17,040

little bit more flexibility in the suit

821

01:01:20,710 --> 01:01:18,720

itself the more pressure you put into

822

01:01:23,430 --> 01:01:20,720

the suit the stiffer it becomes

823

01:01:25,589 --> 01:01:23,440

so they found this to be an optimum

824

01:01:26,309 --> 01:01:25,599

pressure uh for both

825

01:01:29,270 --> 01:01:26,319

the

826
01:01:34,710 --> 01:01:29,280
humans inside breathing 100 oxygen and

827
01:01:39,430 --> 01:01:36,789
alan on twitter is asking uh when will

828
01:01:42,630 --> 01:01:39,440
we see the new solar panels open today

829
01:01:45,109 --> 01:01:42,640
and roughly what time that will be

830
01:01:49,030 --> 01:01:45,119
today is a planned six and a half hour

831
01:01:53,270 --> 01:01:51,349
uh the first set of procedures will be

832
01:01:56,549 --> 01:01:53,280
right out to the 2b work site where

833
01:01:57,510 --> 01:01:56,559
there is a solar array an irosa solar

834
01:01:59,670 --> 01:01:57,520
array

835
01:02:01,990 --> 01:01:59,680
temporarily stowed on a mounting bracket

836
01:02:04,549 --> 01:02:02,000
the first set of procedures will be to

837
01:02:06,390 --> 01:02:04,559
install it affix it to the mounting

838
01:02:08,230 --> 01:02:06,400

bracket by unfolding it and driving some

839

01:02:11,349 --> 01:02:08,240

bolts to secure it into position we'll

840

01:02:13,670 --> 01:02:11,359

hook up some cables and uh

841

01:02:14,710 --> 01:02:13,680

right at the right time we'll be able to

842

01:02:17,510 --> 01:02:14,720

deploy

843

01:02:19,109 --> 01:02:17,520

the 60 foot solar array out

844

01:02:20,390 --> 01:02:19,119

and the astronauts themselves will be

845

01:02:22,950 --> 01:02:20,400

out at the work site

846

01:02:25,029 --> 01:02:22,960

while the solar array is deploying

847

01:02:27,750 --> 01:02:25,039

we're expecting that between three and

848

01:02:29,990 --> 01:02:27,760

four hours into today's spacewalk once

849

01:02:30,950 --> 01:02:30,000

we get uh the official start time here

850

01:02:33,029 --> 01:02:30,960

shortly

851

01:02:34,710 --> 01:02:33,039

that will take up again the first part

852

01:02:36,950 --> 01:02:34,720

of today's spacewalk about three or four

853

01:02:38,710 --> 01:02:36,960

hours in the remainder of today's

854

01:02:40,230 --> 01:02:38,720

spacewalk uh will be some of the

855

01:02:42,390 --> 01:02:40,240

preparations to get ready to start

856

01:02:44,230 --> 01:02:42,400

working on the 4b channel there is one

857

01:02:47,029 --> 01:02:44,240

martial array that was delivered on the

858

01:02:50,150 --> 01:02:47,039

spacex crs 22 and we'll get that ready

859

01:02:52,390 --> 01:02:50,160

uh and unbolted gets get ahead uh before

860

01:02:54,710 --> 01:02:52,400

uh the next spacewalk which is currently

861

01:02:56,470 --> 01:02:54,720

scheduled for next friday the 25th and

862

01:02:58,630 --> 01:02:56,480

the procedures for that spacewalk we'll

863

01:03:26,150 --> 01:02:58,640

be installing that uh

864

01:03:29,589 --> 01:03:27,990

while we're waiting for the dpress to

865

01:03:31,589 --> 01:03:29,599

finish up here

866

01:03:33,109 --> 01:03:31,599

as you guys know we've been updating our

867

01:03:34,870 --> 01:03:33,119

procedure

868

01:03:36,549 --> 01:03:34,880

late in the day yesterday and i do have

869

01:03:38,789 --> 01:03:36,559

a change that now would be a good time

870

01:03:41,029 --> 01:03:38,799

for you to copy

871

01:03:44,309 --> 01:03:41,039

after you finish your buddy checks at

872

01:03:46,470 --> 01:03:44,319

the airlock we'll have shane lead out in

873

01:03:48,150 --> 01:03:46,480

the port direction because tomorrow

874

01:03:49,670 --> 01:03:48,160

you'll be dropping the crew lock bag at

875

01:03:52,150 --> 01:03:49,680

the port cedar cart and picking up an

876

01:04:00,390 --> 01:03:52,160

apfr so it makes more sense for shane to

877

01:04:00,400 --> 01:04:26,110

uh that makes sense

878

01:04:26,120 --> 01:04:33,510

[Music]

879

01:04:33,520 --> 01:04:46,549

your uh

880

01:04:48,950 --> 01:04:47,750

but somewhere else you had a different

881

01:04:50,270 --> 01:04:48,960

reading

882

01:04:52,829 --> 01:04:50,280

my dcm

883

01:04:56,710 --> 01:04:52,839

45.4 even and

884

01:04:57,829 --> 01:04:56,720

on manual gauge on the outer heads it's

885

01:05:00,309 --> 01:04:57,839

pointing

886

01:05:02,069 --> 01:05:00,319

at this

887

01:05:10,789 --> 01:05:02,079

and tomorrow we're showing a crew log

888

01:05:10,799 --> 01:05:44,390

okay

889

01:05:47,910 --> 01:05:45,990

that readout

890

01:05:50,069 --> 01:05:47,920

from the crew was comparing some of the

891

01:05:51,190 --> 01:05:50,079

data being displayed on the astronaut

892

01:05:52,789 --> 01:05:51,200

suits

893

01:05:54,470 --> 01:05:52,799

the two astronauts are on the other side

894

01:05:56,470 --> 01:05:54,480

of the hatch today as the other side of

895

01:05:58,630 --> 01:05:56,480

that hatch is being depressurized down

896

01:06:03,589 --> 01:05:58,640

to about 0.5 pounds per square inch

897

01:06:07,589 --> 01:06:05,109

keep sending in your questions using the

898

01:06:09,750 --> 01:06:07,599

hashtag ask nasa as we make our way down

899

01:06:11,990 --> 01:06:09,760

to that mark

900

01:06:14,150 --> 01:06:12,000

the first uh question comes from mike on

901
01:06:16,549 --> 01:06:14,160
twitter who's asking if pooja giusrani

902
01:06:18,789 --> 01:06:16,559
was the flight director was today

903
01:06:20,870 --> 01:06:18,799
or has she moved to the third spacewalk

904
01:06:22,710 --> 01:06:20,880
that is correct ron spencer is the

905
01:06:24,309 --> 01:06:22,720
spacewa is the flight director for

906
01:06:26,390 --> 01:06:24,319
today's spacewalk continuing a lot of

907
01:06:29,190 --> 01:06:26,400
the procedures that he is prepared for

908
01:06:31,829 --> 01:06:29,200
on the 2b channel a lot of the work for

909
01:06:33,750 --> 01:06:31,839
the 4b channel will be done on the next

910
01:06:36,309 --> 01:06:33,760
spacewalk currently scheduled for june

911
01:06:38,069 --> 01:06:36,319
25th pooja chesrani will take over as

912
01:06:39,990 --> 01:06:38,079
flight director for that uh third

913
01:06:40,950 --> 01:06:40,000

spacewalk

914

01:06:43,589 --> 01:06:40,960

page

915

01:06:45,510 --> 01:06:43,599

grab an aprfront report card which means

916

01:06:48,710 --> 01:06:45,520

that wall free okay change

917

01:06:50,390 --> 01:06:48,720

and p6 from uh 18 to 38 but i installed

918

01:06:53,990 --> 01:06:50,400

the one i grabbed on the on the fourth

919

01:06:55,750 --> 01:06:54,000

see the charging weave 38 on p6 correct

920

01:06:57,430 --> 01:06:55,760

yeah you'll just be dropping the crew

921

01:06:58,870 --> 01:06:57,440

lock bag on the port cedar cart like we

922

01:07:02,230 --> 01:06:58,880

talked yesterday and you'll still be

923

01:07:03,829 --> 01:07:02,240

picking up the apfr on p6 but just

924

01:07:05,829 --> 01:07:03,839

because of those extra steps that's the

925

01:07:07,750 --> 01:07:05,839

only reason we're having shane lead so

926
01:07:12,710 --> 01:07:07,760
no change to where you're picking up the

927
01:07:16,150 --> 01:07:14,309
okay sorry i thought i heard you say

928
01:07:17,670 --> 01:07:16,160
we're i'm picking up an apf on a true

929
01:07:19,270 --> 01:07:17,680
love bag or something on the fourth

930
01:07:21,829 --> 01:07:19,280
cigarette card but i'm only dropping my

931
01:07:23,589 --> 01:07:21,839
credit like we said okay

932
01:07:24,950 --> 01:07:23,599
yep that's correct just because of that

933
01:07:26,390 --> 01:07:24,960
extra time that's the reason we're

934
01:07:49,589 --> 01:07:26,400
switching to chain leading no other

935
01:07:49,599 --> 01:08:20,870
20 seconds to hand over

936
01:08:24,309 --> 01:08:22,950
we're now in a short handover period

937
01:08:27,110 --> 01:08:24,319
we'll be seeing this periodically

938
01:08:28,789 --> 01:08:27,120

throughout today's spacewalk as we lose

939

01:08:30,870 --> 01:08:28,799

video from the international space

940

01:08:32,630 --> 01:08:30,880

station that video being routed through

941

01:08:34,550 --> 01:08:32,640

tracking and data relay satellites

942

01:08:36,390 --> 01:08:34,560

they're geosynchronous satellites that

943

01:08:38,789 --> 01:08:36,400

provide the video feeds from the

944

01:08:41,349 --> 01:08:38,799

international space station orbiting 250

945

01:08:43,430 --> 01:08:41,359

miles above the earth trans transmitted

946

01:08:47,030 --> 01:08:43,440

to these geosynchronous satellites about

947

01:08:49,189 --> 01:08:47,040

23 000 miles from earth back down to uh

948

01:08:51,430 --> 01:08:49,199

here in mission control houston

949

01:08:53,669 --> 01:08:51,440

as they as the space station orbits the

950

01:08:54,870 --> 01:08:53,679

earth it hands over from satellite to

951
01:08:55,990 --> 01:08:54,880
satellite so we'll be getting these

952
01:08:58,149 --> 01:08:56,000
incremental

953
01:08:59,749 --> 01:08:58,159
drops we should be regaining it shortly

954
01:09:01,189 --> 01:08:59,759
and we'll get a lot of good coverage for

955
01:09:02,550 --> 01:09:01,199
today's spacewalk this is the

956
01:09:04,709 --> 01:09:02,560
international space station flight

957
01:09:06,950 --> 01:09:04,719
control teams on the far right being led

958
01:09:09,349 --> 01:09:06,960
by flight director ron spencer standing

959
01:09:11,510 --> 01:09:09,359
up in the back is jenny seidy she'll be

960
01:09:13,269 --> 01:09:11,520
the voice of the ground iv role from

961
01:09:14,550 --> 01:09:13,279
here in mission control houston relaying

962
01:09:16,550 --> 01:09:14,560
the procedures up to our two

963
01:09:18,950 --> 01:09:16,560

spacewalking astronauts

964

01:09:21,430 --> 01:09:18,960

when you see the delta t less than .5

965

01:09:23,110 --> 01:09:21,440

you are going to open and stow the hatch

966

01:09:24,870 --> 01:09:23,120

remember the one second pause when you

967

01:09:26,870 --> 01:09:24,880

have cranked it open

968

01:09:30,229 --> 01:09:26,880

okay i'll wait uh

969

01:09:32,149 --> 01:09:30,239

30 more seconds to be sure i'm under 0.5

970

01:09:47,189 --> 01:09:32,159

thanks megan and i copy the pause of one

971

01:09:51,030 --> 01:09:49,269

and we're still showing a pressure of

972

01:09:52,870 --> 01:09:51,040

0.51

973

01:10:07,110 --> 01:09:52,880

so we are very nearly there we are going

974

01:10:28,390 --> 01:10:08,550

all right we got what we're looking for

975

01:10:31,910 --> 01:10:30,390

getting the first views from the outside

976
01:10:34,550 --> 01:10:31,920
of the international space station right

977
01:10:36,550 --> 01:10:34,560
at the top of uh this middle part of the

978
01:10:38,229 --> 01:10:36,560
module that you're seeing here is the

979
01:10:40,310 --> 01:10:38,239
hatch uh that

980
01:10:42,149 --> 01:10:40,320
is containing the crew lock inside our

981
01:10:43,590 --> 01:10:42,159
two space walking astronauts the hatch

982
01:10:46,070 --> 01:10:43,600
is open

983
01:10:47,910 --> 01:10:46,080
on the airlock after getting that go

984
01:10:50,950 --> 01:10:47,920
we'll be seeing the thermal cover being

985
01:10:52,870 --> 01:10:50,960
pushed out uh momentarily

986
01:10:54,870 --> 01:10:52,880
happy tomorrow the hatch is open great

987
01:10:56,470 --> 01:10:54,880
work tomorrow and shane you guys go be

988
01:10:58,550 --> 01:10:56,480

amazing we'll see you in a few hours

989

01:11:00,149 --> 01:10:58,560

remember you are butterflies with biceps

990

01:11:02,310 --> 01:11:00,159

today

991

01:11:03,750 --> 01:11:02,320

thanks megan thanks maggie and uh see

992

01:11:04,950 --> 01:11:03,760

you in a while you guys take care of

993

01:11:07,110 --> 01:11:04,960

yourself

994

01:11:19,910 --> 01:11:07,120

hope we'll see you next time

995

01:11:23,990 --> 01:11:21,750

right

996

01:11:40,070 --> 01:11:24,000

affirmative i have the emergency mpev is

997

01:11:40,080 --> 01:11:52,630

okay if you are going too bad

998

01:11:52,640 --> 01:12:02,790

you want

999

01:12:08,470 --> 01:12:06,470

[Music]

1000

01:12:11,910 --> 01:12:08,480

everything looks good

1001
01:12:14,950 --> 01:12:11,920
you need to use in that um get this way

1002
01:12:19,189 --> 01:12:14,960
stop a good display on one and two

1003
01:12:22,870 --> 01:12:19,199
shane on the uia switch power ev one two

1004
01:12:27,590 --> 01:12:22,880
off and check power ev1 and 2 leds all

1005
01:12:33,189 --> 01:12:30,229
the ev1 and 2 powers are off

1006
01:12:34,149 --> 01:12:33,199
leds are off

1007
01:12:37,350 --> 01:12:34,159
copy

1008
01:12:39,430 --> 01:12:37,360
on your dcms disconnect your scu's

1009
01:12:45,750 --> 01:12:39,440
install your dcm covers and stow your

1010
01:12:45,760 --> 01:12:59,110
work

1011
01:12:59,120 --> 01:13:04,790
well this year stowed in the bounce

1012
01:13:08,790 --> 01:13:07,990
dcm cover is on

1013
01:13:10,310 --> 01:13:08,800

alright

1014

01:13:16,830 --> 01:13:10,320

working on it

1015

01:13:21,830 --> 01:13:19,510

on and we got confirmation that the

1016

01:13:23,669 --> 01:13:21,840

suits are officially on battery power

1017

01:13:34,630 --> 01:13:23,679

that official start time for today's

1018

01:13:41,510 --> 01:13:39,510

is in the pouch and i'm pcm covered off

1019

01:13:43,990 --> 01:13:41,520

copy shane

1020

01:13:50,310 --> 01:13:44,000

check depress pump manual isolation

1021

01:13:56,630 --> 01:13:54,149

depressed pump man iso is closed

1022

01:14:06,229 --> 01:13:56,640

copy set your temperature control valve

1023

01:14:06,239 --> 01:14:10,070

why do you want to get my park

1024

01:14:10,080 --> 01:14:18,470

in a second

1025

01:14:18,480 --> 01:14:22,229

v2 and microsoft

1026

01:14:22,239 --> 01:14:24,790

copy

1027

01:14:24,800 --> 01:14:32,390

both in max hot you can switch water on

1028

01:14:38,390 --> 01:14:35,669

you one of the water is on on

1029

01:14:48,070 --> 01:14:38,400

v2 water on

1030

01:15:04,470 --> 01:14:49,990

right off

1031

01:15:04,480 --> 01:15:15,990

all right

1032

01:15:22,870 --> 01:15:18,229

check and report your suit pressure

1033

01:15:26,630 --> 01:15:25,430

pressure gauge is four point

1034

01:15:28,149 --> 01:15:26,640

three

1035

01:15:31,430 --> 01:15:28,159

four eighty one

1036

01:15:34,550 --> 01:15:31,440

four point four ebt

1037

01:15:37,270 --> 01:15:34,560

puppy those are good numbers set your

1038

01:15:52,870 --> 01:15:37,280

visors as required we have over 20

1039

01:15:56,950 --> 01:15:55,110

okay copy with visor set we are ready to

1040

01:15:59,350 --> 01:15:56,960

have you guys head out the door so

1041

01:16:00,310 --> 01:15:59,360

tomorrow you can open the hatch thermal

1042

01:16:01,910 --> 01:16:00,320

cover

1043

01:16:04,070 --> 01:16:01,920

and we'll get you to complete the extra

1044

01:16:14,229 --> 01:16:04,080

steps stow the hook on the stiffener

1045

01:16:14,239 --> 01:16:26,550

thermal cover

1046

01:16:30,229 --> 01:16:28,149

with the hatch open we're starting to

1047

01:16:34,790 --> 01:16:30,239

get a glimpse of that thermal cover

1048

01:16:38,229 --> 01:16:36,550

the crew inside continuing to walk

1049

01:16:40,070 --> 01:16:38,239

through the steps making sure that they

1050

01:16:41,990 --> 01:16:40,080

are in the right configuration and all

1051

01:16:43,910 --> 01:16:42,000

the valves are switched to the right

1052

01:16:45,510 --> 01:16:43,920

configuration now that they are unhooked

1053

01:16:47,669 --> 01:16:45,520

from their umbilicals and relying on

1054

01:16:50,229 --> 01:16:47,679

battery power again the official start

1055

01:16:53,830 --> 01:16:50,239

time of today's spacewalk 6 42

1056

01:16:55,030 --> 01:16:53,840

a.m central time at the time of uh

1057

01:16:57,510 --> 01:16:55,040

switching to battery power the

1058

01:17:16,149 --> 01:16:57,520

international space station was 273

1059

01:17:21,350 --> 01:17:18,470

a firm you have a go to egress with crew

1060

01:17:32,790 --> 01:17:21,360

lock bag one and verify the forward

1061

01:17:36,390 --> 01:17:34,709

getting our first glimpse of tomah

1062

01:17:39,110 --> 01:17:36,400

pesquet being the first one out the

1063

01:17:40,790 --> 01:17:39,120

hatch today as the ev1 extra vehicular

1064

01:17:42,630 --> 01:17:40,800

crew member number one he'll be wearing

1065

01:17:46,550 --> 01:17:42,640

this suit with the red stripes

1066

01:17:56,950 --> 01:17:47,830

all right

1067

01:18:02,790 --> 01:18:00,470

see the forward hatch fit pin is engaged

1068

01:18:05,830 --> 01:18:02,800

get my bjorki ready shader patch for the

1069

01:18:05,840 --> 01:18:27,350

copy come on

1070

01:18:52,149 --> 01:18:29,910

you can send the bag

1071

01:18:52,159 --> 01:18:56,149

perfect

1072

01:19:17,990 --> 01:18:57,510

okay

1073

01:19:20,950 --> 01:19:19,830

tomorrow with that crew lock bag on your

1074

01:19:24,070 --> 01:19:20,960

brt

1075

01:19:26,470 --> 01:19:24,080

you can turn on your heka and inspect

1076

01:19:32,910 --> 01:19:26,480

ev1 and ev2 safety tether load

1077

01:19:32,920 --> 01:19:49,110

[Music]

1078

01:19:53,430 --> 01:19:50,390

exiting strap

1079

01:19:58,310 --> 01:19:56,390

i copy two good inspections we can go

1080

01:20:00,070 --> 01:19:58,320

ahead and start configuring your tether

1081

01:20:03,030 --> 01:20:00,080

packs at this time

1082

01:20:12,990 --> 01:20:03,040

so you can attach your yellow hook to

1083

01:20:13,000 --> 01:20:18,149

d-ring rail

1084

01:20:23,030 --> 01:20:20,790

before the external steering

1085

01:20:25,189 --> 01:20:23,040

it is now locked

1086

01:20:26,149 --> 01:20:25,199

back on black journey and the green

1087

01:20:28,310 --> 01:20:26,159

wheel

1088

01:20:31,430 --> 01:20:28,320

box one green

1089

01:20:36,070 --> 01:20:33,270

those are unlocked checks

1090

01:20:38,390 --> 01:20:36,080

you can attach the forward safety tether

1091

01:20:42,070 --> 01:20:38,400

green hook to your red reel and i'll

1092

01:20:47,990 --> 01:20:45,669

again toma pesquet outside of the quest

1093

01:20:49,990 --> 01:20:48,000

airlocks hatch one of the first steps

1094

01:20:52,310 --> 01:20:50,000

for any space walk is to check the

1095

01:20:54,390 --> 01:20:52,320

tether configuration make sure all the

1096

01:20:57,110 --> 01:20:54,400

lines are aligned just right in the

1097

01:20:58,390 --> 01:20:57,120

right order in the right reels this was

1098

01:20:59,669 --> 01:20:58,400

also a check

1099

01:21:02,470 --> 01:20:59,679

when the astronauts were first

1100

01:21:05,189 --> 01:21:02,480

configured inside the crew lock before

1101
01:21:07,350 --> 01:21:05,199
the hatch even closed uh once and then

1102
01:21:09,590 --> 01:21:07,360
once the hatch actually did close uh

1103
01:21:11,590 --> 01:21:09,600
they did do a tether configuration sheen

1104
01:21:14,550 --> 01:21:11,600
kimbrough will do the same once he exits

1105
01:21:17,030 --> 01:21:14,560
the hatch

1106
01:21:18,470 --> 01:21:17,040
green hook is unlocked

1107
01:21:19,990 --> 01:21:18,480
the red reel

1108
01:21:23,270 --> 01:21:20,000
is unlocked

1109
01:21:27,430 --> 01:21:23,280
goes to my left steering extender

1110
01:21:32,310 --> 01:21:29,669
copy that's a good config now we'll work

1111
01:21:34,790 --> 01:21:32,320
with ev2 safety tether pack so you can

1112
01:21:37,430 --> 01:21:34,800
attach shane's yellow hook to the green

1113
01:21:58,629 --> 01:21:37,440

reel on the aft external d-ring and i'll

1114

01:22:03,350 --> 01:22:01,110

slider locked black on black the green

1115

01:22:04,629 --> 01:22:03,360

reel is unlocked

1116

01:22:07,669 --> 01:22:04,639

good config

1117

01:22:22,629 --> 01:22:07,679

you can attach shane's green hook to his

1118

01:22:22,639 --> 01:22:27,750

very good

1119

01:22:43,270 --> 01:22:30,070

green hike to red reel grenade to red

1120

01:22:47,430 --> 01:22:44,790

not only working on the tether

1121

01:22:49,830 --> 01:22:47,440

configuration for his own spacesuit but

1122

01:22:52,229 --> 01:22:49,840

also getting everything ready tether

1123

01:22:53,510 --> 01:22:52,239

wise for shane kimbrough once he gets

1124

01:22:56,550 --> 01:22:53,520

out of the hatch there's one more

1125

01:22:58,629 --> 01:22:56,560

astronaut inside the the crew lock right

1126
01:23:00,229 --> 01:22:58,639
now shane kimbrough nasa astronaut will

1127
01:23:02,390 --> 01:23:00,239
be wearing the suit with the white

1128
01:23:04,790 --> 01:23:02,400
stripes or the unmarked suit taking the

1129
01:23:07,510 --> 01:23:04,800
ev2 or extra vehicular two extra

1130
01:23:09,910 --> 01:23:07,520
vehicular crew member number two

1131
01:23:11,830 --> 01:23:09,920
for today's spacewalk

1132
01:23:13,750 --> 01:23:11,840
keep sending questions using the hashtag

1133
01:23:16,070 --> 01:23:13,760
ask nasa on twitter the next one comes

1134
01:23:17,590 --> 01:23:16,080
from florence who's asking why do the

1135
01:23:20,870 --> 01:23:17,600
astronauts have to breathe one hundred

1136
01:23:22,629 --> 01:23:20,880
percent oxygen inside the international

1137
01:23:25,030 --> 01:23:22,639
space station they breathe a mixed air

1138
01:23:27,030 --> 01:23:25,040

environment of nitrogen and oxygen in

1139

01:23:28,870 --> 01:23:27,040

the suits the pressure is much lower

1140

01:23:30,629 --> 01:23:28,880

less than five pounds per square inch so

1141

01:23:32,709 --> 01:23:30,639

they breathe a 100 percent

1142

01:23:34,550 --> 01:23:32,719

oxygen environment to operate the suit

1143

01:23:37,030 --> 01:23:34,560

in a lower pressure environment why the

1144

01:23:38,550 --> 01:23:37,040

lower pressure it helps the suit be less

1145

01:23:40,550 --> 01:23:38,560

rigid so they can do a lot of the

1146

01:23:41,590 --> 01:23:40,560

delicate maneuvers with their fingers

1147

01:23:43,590 --> 01:23:41,600

and hands

1148

01:23:45,750 --> 01:23:43,600

that are required for the intricate

1149

01:23:47,910 --> 01:23:45,760

procedures that are a spacewalk you'll

1150

01:23:49,990 --> 01:23:47,920

also notice in a 100 percent oxygen

1151

01:23:53,110 --> 01:23:50,000

environment their voices are a little

1152

01:23:56,629 --> 01:23:55,669

that's complete so start coming out if

1153

01:23:58,470 --> 01:23:56,639

you're ready

1154

01:24:00,070 --> 01:23:58,480

i'm ready

1155

01:24:02,070 --> 01:24:00,080

and shane just a reminder you'll be

1156

01:24:04,149 --> 01:24:02,080

egressing

1157

01:24:09,430 --> 01:24:04,159

yes and the large small will stay with

1158

01:24:14,070 --> 01:24:11,350

i see a large smile on the bag and i'm

1159

01:24:42,870 --> 01:24:14,080

egressing with the bag

1160

01:24:46,470 --> 01:24:44,550

all right come on let me get a vrt on

1161

01:24:47,910 --> 01:24:46,480

this

1162

01:24:49,350 --> 01:24:47,920

are we ready

1163

01:24:50,790 --> 01:24:49,360

getting a first glimpse of shane

1164

01:24:52,310 --> 01:24:50,800

kimbrough again he'll be wearing the

1165

01:24:53,910 --> 01:24:52,320

suit with the white stripes or the

1166

01:24:55,990 --> 01:24:53,920

unmarked suit

1167

01:24:56,870 --> 01:24:56,000

referring to his brt body restraint

1168

01:25:00,229 --> 01:24:56,880

tether

1169

01:25:02,790 --> 01:25:00,239

throughout the duration of today's

1170

01:25:05,669 --> 01:25:02,800

spacewalk the body restraint tether uh

1171

01:25:08,229 --> 01:25:05,679

has the ability to uh carry a crew lock

1172

01:25:10,629 --> 01:25:08,239

bag you see toma pesque on the left of

1173

01:25:12,870 --> 01:25:10,639

your screen his body restraint tether is

1174

01:25:14,070 --> 01:25:12,880

carrying a white box as a crew lock bag

1175

01:25:15,669 --> 01:25:14,080

carrying a lot of the equipment that

1176
01:25:20,800 --> 01:25:15,679
he'll be needing throughout the duration

1177
01:25:51,790 --> 01:25:22,250
[Music]

1178
01:26:07,030 --> 01:25:55,170
[Applause]

1179
01:26:12,950 --> 01:26:08,390
tunnel cover

1180
01:26:16,310 --> 01:26:14,629
shane you can turn on your heka and you

1181
01:26:17,830 --> 01:26:16,320
can close the thermal cover if it

1182
01:26:28,790 --> 01:26:17,840
doesn't stay closed i have additional

1183
01:26:28,800 --> 01:26:32,390
[Music]

1184
01:26:37,510 --> 01:26:34,629
is the high definition extra vehicular

1185
01:26:40,229 --> 01:26:37,520
activity mobility unit camera assembly

1186
01:26:42,310 --> 01:26:40,239
echo for short really it is the high

1187
01:26:44,550 --> 01:26:42,320
definition cameras that are mounted to

1188
01:26:46,709 --> 01:26:44,560

each of their spacesuits we may be

1189

01:26:48,709 --> 01:26:46,719

getting some really nice clear high

1190

01:26:50,550 --> 01:26:48,719

definition views from the helmet cameras

1191

01:26:51,990 --> 01:26:50,560

if not there are backup standard

1192

01:26:53,189 --> 01:26:52,000

definition cameras that we can always

1193

01:26:57,669 --> 01:26:53,199

rely on

1194

01:26:57,679 --> 01:27:14,229

but doesn't want to

1195

01:27:19,669 --> 01:27:17,830

we can uh prepare a long wire tie shane

1196

01:27:23,590 --> 01:27:19,679

and let me know if you need words on how

1197

01:27:23,600 --> 01:27:27,400

okay okay

1198

01:27:32,390 --> 01:27:30,550

[Music]

1199

01:27:33,990 --> 01:27:32,400

i think i'm on the forward side

1200

01:27:36,149 --> 01:27:34,000

of the thermal cover it looks like

1201

01:27:38,390 --> 01:27:36,159

something is undone right here

1202

01:27:40,950 --> 01:27:38,400

maybe that doesn't help closing it

1203

01:27:43,990 --> 01:27:40,960

see what i'm saying

1204

01:28:10,870 --> 01:27:45,910

we don't have your helmet come

1205

01:28:10,880 --> 01:28:24,790

[Applause]

1206

01:28:24,800 --> 01:28:38,310

uh

1207

01:28:44,500 --> 01:28:40,550

i can't hold it close for you

1208

01:28:44,510 --> 01:29:00,550

[Applause]

1209

01:29:00,560 --> 01:29:03,030

twist

1210

01:29:08,310 --> 01:29:05,430

one more there

1211

01:29:11,120 --> 01:29:08,320

okay now this side on the on the clock

1212

01:29:21,120 --> 01:29:11,130

boots i think not available

1213

01:29:21,130 --> 01:29:28,070

[Applause]

1214

01:29:31,830 --> 01:29:30,149

yeah

1215

01:29:36,070 --> 01:29:31,840

then just one so that we can open it

1216

01:29:36,080 --> 01:29:46,390

i can just

1217

01:29:56,550 --> 01:29:48,070

something like that

1218

01:30:02,390 --> 01:29:57,990

um

1219

01:30:08,709 --> 01:30:04,390

it stays closed

1220

01:30:12,950 --> 01:30:11,590

if we can go

1221

01:30:14,629 --> 01:30:12,960

i could route the other way and maybe

1222

01:30:16,950 --> 01:30:14,639

get it tighter

1223

01:30:18,709 --> 01:30:16,960

what do you think you see that view

1224

01:30:20,629 --> 01:30:18,719

so we don't have your helmet views until

1225

01:30:22,629 --> 01:30:20,639

we do buddy checks so if you have a

1226

01:30:23,990 --> 01:30:22,639

config that you're happy with

1227

01:30:26,790 --> 01:30:24,000

let's do our buddy checks and then we

1228

01:30:30,870 --> 01:30:26,800

can take a final look at it

1229

01:30:36,149 --> 01:30:32,120

okay

1230

01:30:43,189 --> 01:30:37,669

all right let me get in position over

1231

01:30:43,199 --> 01:30:48,070

coming up sorry

1232

01:30:52,550 --> 01:30:50,470

all right that's the two green lights on

1233

01:30:55,430 --> 01:30:52,560

your helmet the wvs

1234

01:31:00,830 --> 01:30:56,790

the hacker

1235

01:31:05,590 --> 01:31:03,990

three the new york station passes up i

1236

01:31:07,830 --> 01:31:05,600

see one two

1237

01:31:10,629 --> 01:31:07,840

handles down

1238

01:31:12,470 --> 01:31:10,639

and i see your tablet config

1239

01:31:14,550 --> 01:31:12,480

you get your red hook

1240

01:31:17,270 --> 01:31:14,560

closed and locked on your left steering

1241

01:31:18,790 --> 01:31:17,280

extender goes to your red reel

1242

01:31:21,189 --> 01:31:18,800

unlocked

1243

01:31:23,110 --> 01:31:21,199

get your yellow hook locked on your

1244

01:31:24,310 --> 01:31:23,120

green reel unlocked and you get your

1245

01:31:25,990 --> 01:31:24,320

green wheel

1246

01:31:27,430 --> 01:31:26,000

on your red

1247

01:31:29,910 --> 01:31:27,440

field

1248

01:31:32,790 --> 01:31:29,920

a good container sounds good i see your

1249

01:31:34,870 --> 01:31:32,800

bag on your brt

1250

01:31:38,950 --> 01:31:34,880

you got both your green lights so if

1251

01:31:46,229 --> 01:31:41,910

your many workstation tabs up

1252

01:31:48,950 --> 01:31:46,239

get your key tab up your tellers are

1253

01:31:50,390 --> 01:31:48,960

handle them just uh behind you let me

1254

01:31:52,550 --> 01:31:50,400

see

1255

01:31:55,350 --> 01:31:52,560

yeah i think they go to my left thumb

1256

01:31:57,030 --> 01:31:55,360

and right handles are down

1257

01:31:58,709 --> 01:31:57,040

and let's see your tethers are coming

1258

01:32:00,310 --> 01:31:58,719

off your left side or right against off

1259

01:32:02,870 --> 01:32:00,320

okay let's think about

1260

01:32:04,709 --> 01:32:02,880

let me move

1261

01:32:06,629 --> 01:32:04,719

i see him on your right side and my

1262

01:32:09,110 --> 01:32:06,639

right side okay

1263

01:32:19,910 --> 01:32:09,120

let me go across my body

1264

01:32:24,470 --> 01:32:21,910

in the suit on the left with the white

1265

01:32:26,310 --> 01:32:24,480

uh the red stripes uh working with shane

1266

01:32:28,390 --> 01:32:26,320

kimbrough nasa astronaut suit with the

1267

01:32:29,590 --> 01:32:28,400

white stripes of the unmarked suit

1268

01:32:31,669 --> 01:32:29,600

they're performing something called

1269

01:32:33,189 --> 01:32:31,679

buddy checks making sure all the tethers

1270

01:32:35,750 --> 01:32:33,199

and the body restraint tethers the crew

1271

01:32:37,430 --> 01:32:35,760

lock bags their helmet camera assemblies

1272

01:32:39,030 --> 01:32:37,440

everything is in a good configuration

1273

01:32:41,990 --> 01:32:39,040

before they head out to today's work

1274

01:32:52,229 --> 01:32:42,000

site which is the port 6 truss

1275

01:32:55,910 --> 01:32:53,910

hey jenny if you're getting all cameras

1276

01:32:58,070 --> 01:32:55,920

do you want to you want to see that what

1277

01:33:00,390 --> 01:32:58,080

looks like an undone fastener on the

1278

01:33:02,070 --> 01:33:00,400

thermal cover

1279

01:33:03,510 --> 01:33:02,080

if you guys are happy with it we're

1280

01:33:04,950 --> 01:33:03,520

going to uh

1281

01:33:07,189 --> 01:33:04,960

we're going to leave it here and

1282

01:33:08,709 --> 01:33:07,199

continue with the eva portion as long as

1283

01:33:11,830 --> 01:33:08,719

you're convinced it'll stay closed with

1284

01:33:17,430 --> 01:33:15,189

yeah it's going to stay as it is yep

1285

01:33:19,110 --> 01:33:17,440

okay so just a reminder shane will be

1286

01:33:20,790 --> 01:33:19,120

leading to the work site now that your

1287

01:33:22,550 --> 01:33:20,800

buddy checks are complete

1288

01:33:26,070 --> 01:33:22,560

shiny can you begin your translation

1289

01:33:31,110 --> 01:33:27,350

okay

1290

01:33:32,470 --> 01:33:31,120

i'll come to that hannah where you are

1291

01:33:37,110 --> 01:33:32,480

now and cut

1292

01:33:37,120 --> 01:33:40,709

so you have it

1293

01:33:40,719 --> 01:33:47,510

in a bit of your life going yet

1294

01:33:55,270 --> 01:33:48,930

away from yourself

1295

01:33:59,030 --> 01:33:57,189

and with good buddy checks their both of

1296

01:34:00,470 --> 01:33:59,040

their suits look good in a good

1297

01:34:04,470 --> 01:34:00,480

configuration

1298

01:34:06,550 --> 01:34:04,480

as they head out to the work site

1299

01:34:08,470 --> 01:34:06,560

shane kimbrough being the first one out

1300

01:34:10,709 --> 01:34:08,480

he'll be translating right over to the

1301

01:34:11,750 --> 01:34:10,719

worksite at the port six truss

1302

01:34:14,629 --> 01:34:11,760

uh

1303

01:34:16,790 --> 01:34:14,639

ev1 or tomoposque we'll make a quick

1304

01:34:18,470 --> 01:34:16,800

stop at something called the cedar cart

1305

01:34:20,470 --> 01:34:18,480

where there is a crew lock bag waiting

1306

01:34:31,669 --> 01:34:20,480

for him to pick up and head over to the

1307

01:34:40,709 --> 01:34:34,709

and kimbrough see my total queue

1308

01:34:40,719 --> 01:34:44,870

actually your setter is right behind you

1309

01:34:50,070 --> 01:34:48,070

you're gonna clear it yeah it's uh

1310

01:34:51,750 --> 01:34:50,080

if you lift your key up it's kind of on

1311

01:34:53,510 --> 01:34:51,760

behind and then

1312

01:34:55,510 --> 01:34:53,520

rotate your

1313

01:35:02,560 --> 01:34:55,520

feet towards the airlock

1314

01:35:02,570 --> 01:35:13,109

[Applause]

1315

01:35:23,830 --> 01:35:15,669

we have about four minutes until sunrise

1316

01:35:28,229 --> 01:35:26,470

all right jenny

1317

01:35:43,990 --> 01:35:28,239

avoid contact with the deployed test

1318

01:35:48,870 --> 01:35:46,390

hey come on on phase one

1319

01:35:52,790 --> 01:35:48,880

i see you back there

1320

01:35:56,870 --> 01:35:54,149

and shane since you're leading our

1321

01:35:59,669 --> 01:35:56,880

translation today we'll have you pause

1322

01:36:08,790 --> 01:35:59,679

to verify the anchor hooks are in a good

1323

01:36:08,800 --> 01:36:15,030

those will be under the fhrc

1324

01:36:15,040 --> 01:37:28,950

happy jenny

1325

01:37:35,990 --> 01:37:30,629

shane you're looking for mile marker

1326

01:37:36,000 --> 01:38:13,430

okay

1327

01:38:13,440 --> 01:38:29,350

safety feathers

1328

01:38:35,510 --> 01:38:32,390

your anchor hook is closed and locked

1329

01:38:37,510 --> 01:38:35,520

on 3652

1330

01:38:39,109 --> 01:38:37,520

so

1331

01:38:41,189 --> 01:38:39,119

yeah

1332

01:38:42,870 --> 01:38:41,199

i think

1333

01:38:48,149 --> 01:38:42,880

yeah but my

1334

01:38:51,430 --> 01:38:49,750

should come back to me but it goes all

1335

01:38:52,629 --> 01:38:51,440

the way back to i think the top of the c

1336

01:38:54,149 --> 01:38:52,639

square

1337

01:39:00,950 --> 01:38:54,159

so i think i'm actually strapped

1338

01:39:00,960 --> 01:39:05,350

i'll go back in a minute

1339

01:39:09,750 --> 01:39:07,990

behind you yeah i think coming from

1340

01:39:10,709 --> 01:39:09,760

behind me which is not supposed to be a

1341

01:39:13,189 --> 01:39:10,719

case

1342

01:39:17,109 --> 01:39:13,199

come from where you are yeah

1343

01:39:21,510 --> 01:39:19,270

a matter of going back in

1344

01:39:23,149 --> 01:39:21,520

to move out to a work site the

1345

01:39:25,109 --> 01:39:23,159

astronauts need to follow a

1346

01:39:27,590 --> 01:39:25,119

pre-designated path

1347

01:39:29,830 --> 01:39:27,600

along the way they have specific markers

1348

01:39:31,189 --> 01:39:29,840

you can see some of the numbers from uh

1349

01:39:33,109 --> 01:39:31,199

what you're seeing now is a high

1350

01:39:35,750 --> 01:39:33,119

definition view from that heka camera

1351
01:39:37,750 --> 01:39:35,760
we're getting some good connection here

1352
01:39:40,070 --> 01:39:37,760
those tethers have to be connected to a

1353
01:39:42,550 --> 01:39:40,080
specific reel for the work site that

1354
01:39:44,709 --> 01:39:42,560
they will be primarily working on which

1355
01:39:47,590 --> 01:39:44,719
is in this case the 2b power channel

1356
01:39:49,750 --> 01:39:47,600
worksite this is the uh earth facing

1357
01:40:00,950 --> 01:39:49,760
side or the nader side of the

1358
01:40:00,960 --> 01:40:26,950
come on

1359
01:40:31,109 --> 01:40:29,030
we're in another handover period losing

1360
01:40:32,950 --> 01:40:31,119
video temporarily from the international

1361
01:40:35,270 --> 01:40:32,960
space station as we hand over between

1362
01:40:37,350 --> 01:40:35,280
the tracking and data relay satellites

1363
01:40:40,149 --> 01:40:37,360

that provide the video coming from the

1364

01:40:42,149 --> 01:40:40,159

international space station orbiting 250

1365

01:40:44,550 --> 01:40:42,159

miles above the earth

1366

01:40:47,030 --> 01:40:44,560

right now it is approaching uh the

1367

01:40:48,790 --> 01:40:47,040

western border of mexico

1368

01:40:49,830 --> 01:40:48,800

over the pacific ocean now we're about

1369

01:40:57,430 --> 01:40:49,840

to enter

1370

01:40:57,440 --> 01:41:22,709

we're back with you

1371

01:41:22,719 --> 01:41:34,390

better there

1372

01:41:39,109 --> 01:41:37,030

again this is uh us spacewalk number 75

1373

01:41:40,950 --> 01:41:39,119

out of the quest airlock uh

1374

01:41:42,390 --> 01:41:40,960

continuing some of the work done just a

1375

01:41:45,030 --> 01:41:42,400

few days ago

1376

01:41:47,109 --> 01:41:45,040

on the 74th to begin the installation of

1377

01:41:48,629 --> 01:41:47,119

the solar array out on the 2b power

1378

01:41:50,870 --> 01:41:48,639

channel you'll see some of the helmet

1379

01:41:52,229 --> 01:41:50,880

camera designations toma pesquet on the

1380

01:41:54,870 --> 01:41:52,239

standard definition camera we'll be

1381

01:41:56,390 --> 01:41:54,880

using number 20 kimbrough 22. this will

1382

01:41:59,350 --> 01:41:56,400

be the fourth space walk into omaha

1383

01:42:01,030 --> 01:41:59,360

pesky's career all with nasa astronaut

1384

01:42:03,750 --> 01:42:01,040

shane kimbrough for kimbrough this will

1385

01:42:05,510 --> 01:42:03,760

be his eighth on this the 240th

1386

01:42:11,590 --> 01:42:05,520

spacewalk in support of space station

1387

01:42:11,600 --> 01:42:17,669

still getting some high definition views

1388

01:42:23,430 --> 01:42:21,270

uh this one coming from tomah pesquez

1389

01:42:32,629 --> 01:42:23,440

high definition camera he again is

1390

01:42:32,639 --> 01:42:58,229

i play them all today

1391

01:42:58,239 --> 01:43:03,270

yeah it looks like it is not retracting

1392

01:43:20,130 --> 01:43:06,229

we copy tomah your green reel is having

1393

01:43:25,430 --> 01:43:23,030

[Music]

1394

01:43:27,590 --> 01:43:25,440

but i know it looks good

1395

01:43:29,750 --> 01:43:27,600

all right let's take a look at mine

1396

01:43:34,629 --> 01:43:29,760

yours looks good maybe coming out of my

1397

01:43:37,109 --> 01:43:36,310

between your legs so point your legs at

1398

01:43:39,350 --> 01:43:37,119

me

1399

01:43:41,109 --> 01:43:39,360

like that don't rotate just straight

1400

01:43:43,189 --> 01:43:41,119

pitch

1401
01:43:45,080 --> 01:43:43,199
or

1402
01:43:50,870 --> 01:43:45,090
i'll pitch you a little bit

1403
01:43:50,880 --> 01:43:57,830
here thanks sir

1404
01:44:00,870 --> 01:43:59,350
yep

1405
01:44:02,550 --> 01:44:00,880
all right now

1406
01:44:04,229 --> 01:44:02,560
great work youtube yours is on top of

1407
01:44:07,109 --> 01:44:04,239
mine but it's

1408
01:44:10,310 --> 01:44:07,119
out of your shoe i guess

1409
01:44:12,310 --> 01:44:10,320
i'll just clear my reel

1410
01:44:14,470 --> 01:44:12,320
and we'll keep an eye on your reel too

1411
01:44:16,550 --> 01:44:14,480
yes

1412
01:44:18,709 --> 01:44:16,560
copy shane you'll be translating

1413
01:44:20,149 --> 01:44:18,719

directly to the work site and tomorrow

1414

01:44:21,830 --> 01:44:20,159

you'll be stopping at the fort cedar

1415

01:44:26,070 --> 01:44:21,840

cart i have warnings for both of you

1416

01:44:26,080 --> 01:44:29,109

okay

1417

01:44:33,270 --> 01:44:31,030

grapple shafts and curve at coupling in

1418

01:44:34,950 --> 01:44:33,280

the teeth is a no touch zone

1419

01:44:37,350 --> 01:44:34,960

there are sharp edge hazards on the

1420

01:44:40,310 --> 01:44:37,360

empty rail attachment lug near the two

1421

01:44:41,750 --> 01:44:40,320

bravo i8 inboard and radiator corner and

1422

01:44:43,830 --> 01:44:41,760

on the pit pins on the ticker and the

1423

01:44:52,629 --> 01:44:43,840

sticker those both don't meet

1424

01:44:56,790 --> 01:44:54,149

once the astronauts reach certain

1425

01:44:58,709 --> 01:44:56,800

milestones in their translation path

1426

01:45:00,709 --> 01:44:58,719

you'll be hearing these periodic

1427

01:45:02,629 --> 01:45:00,719

notes cautions hazards

1428

01:45:05,189 --> 01:45:02,639

along the way just making sure as they

1429

01:45:08,149 --> 01:45:05,199

reach specific milestones uh that they

1430

01:45:10,870 --> 01:45:08,159

attempt to cross certain thresholds uh

1431

01:45:13,830 --> 01:45:10,880

in this case uh this is an attachment

1432

01:45:16,709 --> 01:45:13,840

lug and a few pins uh on the translation

1433

01:45:19,189 --> 01:45:16,719

path out to the port 6 truss making sure

1434

01:45:21,750 --> 01:45:19,199

that their navigation path is very

1435

01:45:23,990 --> 01:45:21,760

precise and delicate at some of the

1436

01:45:25,990 --> 01:45:24,000

parts of the international space station

1437

01:45:26,950 --> 01:45:26,000

maneuvering very swiftly over these

1438

01:45:28,229 --> 01:45:26,960

areas

1439

01:45:31,270 --> 01:45:28,239

they'll be making their way out to the

1440

01:45:33,669 --> 01:45:31,280

work site very shortly we'll be seeing

1441

01:45:35,270 --> 01:45:33,679

the glimpses of the rollout solar arrays

1442

01:46:26,629 --> 01:45:35,280

that are positioned on the modification

1443

01:46:30,870 --> 01:46:28,550

shane your next step as you translate

1444

01:46:33,910 --> 01:46:30,880

outboard is going to be to drop your

1445

01:46:35,510 --> 01:46:33,920

green hook once you're on p6 before

1446

01:46:43,669 --> 01:46:35,520

crossing message check your gauntlets

1447

01:46:43,679 --> 01:47:02,070

eb2

1448

01:47:02,080 --> 01:47:36,070

foreign

1449

01:47:39,830 --> 01:47:38,310

getting good views of shane kimbrough

1450

01:47:41,669 --> 01:47:39,840

again he's in the suit with the white

1451
01:47:43,830 --> 01:47:41,679
stripes or the unmarked suit he's going

1452
01:47:46,470 --> 01:47:43,840
straight out uh to the work site today

1453
01:47:49,270 --> 01:47:46,480
passing the port four truss additional

1454
01:47:51,590 --> 01:47:49,280
solar arrays there there'll be a one uh

1455
01:47:53,510 --> 01:47:51,600
solar array will be upgraded as part of

1456
01:47:55,750 --> 01:47:53,520
the augmentation plan

1457
01:47:58,870 --> 01:47:55,760
that'll be on the nader side he's making

1458
01:48:00,629 --> 01:47:58,880
his way out though to the port six truss

1459
01:48:02,870 --> 01:48:00,639
both of the mast canisters there that's

1460
01:48:05,430 --> 01:48:02,880
the sort of tin can looking structure at

1461
01:48:08,229 --> 01:48:05,440
the base of the solar arrays both of the

1462
01:48:11,109 --> 01:48:08,239
mass canisters out at the port 6 truss

1463
01:48:13,189 --> 01:48:11,119

are fixed with modification kits now

1464

01:48:16,070 --> 01:48:13,199

coming more clearly into view the white

1465

01:48:18,470 --> 01:48:16,080

uh strut structures you see coming out

1466

01:48:20,310 --> 01:48:18,480

from the mast canisters

1467

01:48:22,709 --> 01:48:20,320

again kimbrough will be making his way

1468

01:48:24,629 --> 01:48:22,719

out to the nader side you can sort of

1469

01:48:26,629 --> 01:48:24,639

see it on the top of your screen there

1470

01:48:29,270 --> 01:48:26,639

uh that's the nader side and he'll be

1471

01:48:32,390 --> 01:48:29,280

making his way uh out to the work site

1472

01:48:33,830 --> 01:48:32,400

there where there is an irosa solar

1473

01:48:36,070 --> 01:48:33,840

array positioned

1474

01:48:38,470 --> 01:48:36,080

soft docked on the modification kit out

1475

01:48:49,350 --> 01:48:41,189

shane your green hook location is p6

1476

01:48:49,360 --> 01:49:04,870

copy

1477

01:49:10,149 --> 01:49:06,870

getting some high definition views from

1478

01:49:11,270 --> 01:49:10,159

shane kimbrough's helmet camera

1479

01:49:28,950 --> 01:49:11,280

copy

1480

01:49:32,870 --> 01:49:31,189

tomah after stowing the crew lock bag

1481

01:49:34,390 --> 01:49:32,880

we'll check your gauntlets are down and

1482

01:49:36,790 --> 01:49:34,400

then you'll be dropping your green hook

1483

01:49:55,430 --> 01:49:36,800

on p6 i have

1484

01:49:55,440 --> 01:49:59,189

you can go ahead on the caution

1485

01:50:03,030 --> 01:50:01,430

i don't care down

1486

01:50:04,790 --> 01:50:03,040

copy

1487

01:50:06,470 --> 01:50:04,800

avoid contact with the deployed and

1488

01:50:08,149 --> 01:50:06,480

stowed radiators

1489

01:50:10,709 --> 01:50:08,159

no sudden movements on the mass canister

1490

01:50:12,870 --> 01:50:10,719

or mod kit translate slowly

1491

01:50:15,270 --> 01:50:12,880

avoid cyclic loading

1492

01:50:17,189 --> 01:50:15,280

battery adapter plate cables on the iea

1493

01:50:18,629 --> 01:50:17,199

are a potential snag

1494

01:50:21,189 --> 01:50:18,639

while you are both working on the mod

1495

01:50:22,550 --> 01:50:21,199

kit you cannot simultaneously impart

1496

01:50:24,390 --> 01:50:22,560

loads

1497

01:50:26,870 --> 01:50:24,400

some stops and quick grabs are not

1498

01:50:33,910 --> 01:50:26,880

allowed and there is a 30 pound max

1499

01:50:33,920 --> 01:50:41,669

pickup

1500

01:50:44,390 --> 01:50:43,030

getting good views of kimbrough

1501
01:50:45,990 --> 01:50:44,400
continuing to make his way out to the

1502
01:50:47,830 --> 01:50:46,000
work site

1503
01:51:05,669 --> 01:50:47,840
you'll be sewing the crew lock bag on

1504
01:51:14,430 --> 01:51:08,070
copy you'll be dropping your green hook

1505
01:51:20,950 --> 01:51:16,870
nine for my green hook

1506
01:51:25,669 --> 01:51:23,589
kimbrough has a crew lock bag in tow

1507
01:51:26,870 --> 01:51:25,679
basically a work bag that he's taking

1508
01:51:29,030 --> 01:51:26,880
out to the work site he'll be

1509
01:51:29,830 --> 01:51:29,040
temporarily stowing it out at the work

1510
01:51:32,070 --> 01:51:29,840
site

1511
01:51:34,149 --> 01:51:32,080
pesquet has completed his task of

1512
01:51:36,709 --> 01:51:34,159
stowing the kulak bag that he towed from

1513
01:51:38,390 --> 01:51:36,719

the airlock out to uh what's called the

1514

01:51:40,149 --> 01:51:38,400

cedar cart that's on the truss segment

1515

01:51:43,030 --> 01:51:40,159

of the space station now configuring his

1516

01:51:45,189 --> 01:51:43,040

tethers as he makes his way out to meet

1517

01:51:47,350 --> 01:51:45,199

kim shane kimbrough out of the work site

1518

01:52:22,629 --> 01:51:47,360

now getting good views of pesquet as he

1519

01:52:35,589 --> 01:52:24,790

and i'm at five three five three zero

1520

01:52:39,109 --> 01:52:37,189

as this game makes his way out to the

1521

01:52:41,430 --> 01:52:39,119

worksite he's going to grab a foot

1522

01:52:43,350 --> 01:52:41,440

restraint tow it with him to the work

1523

01:52:45,830 --> 01:52:43,360

site and install it right in front of

1524

01:52:48,149 --> 01:52:45,840

the mounting bracket uh once he gets it

1525

01:52:50,310 --> 01:52:48,159

installed he will be the one to ingress

1526

01:52:52,470 --> 01:52:50,320

or enter into the foot restraint and

1527

01:52:55,030 --> 01:52:52,480

that's where he will be for the primary

1528

01:52:58,070 --> 01:52:55,040

portion of today's tasks of unfolding

1529

01:53:00,229 --> 01:52:58,080

the iss rollout solar array that's out

1530

01:53:06,390 --> 01:53:00,239

right above shane kimbrough's head from

1531

01:53:10,390 --> 01:53:08,790

copy shane and as a reminder you'll be

1532

01:53:12,070 --> 01:53:10,400

sewing this on the stanchion which is

1533

01:53:13,830 --> 01:53:12,080

furthest from the mounting bracket or

1534

01:53:15,910 --> 01:53:13,840

wherever is most convenient for

1535

01:53:17,510 --> 01:53:15,920

troubleshooting but keep in mind that we

1536

01:53:24,950 --> 01:53:17,520

have a lot that we are attaching to

1537

01:53:30,629 --> 01:53:26,950

okay you said furthest from the market

1538

01:53:35,109 --> 01:53:32,950

yeah we suggest that you're going to be

1539

01:53:36,310 --> 01:53:35,119

temp stowing it on the handrail that

1540

01:53:38,310 --> 01:53:36,320

you're holding on to now but the

1541

01:53:40,470 --> 01:53:38,320

stanchion which is furthest

1542

01:53:42,629 --> 01:53:40,480

from the mod kit so near your left hand

1543

01:53:45,109 --> 01:53:42,639

gotcha

1544

01:53:47,669 --> 01:53:46,310

just letting you know those might be

1545

01:53:50,390 --> 01:53:47,679

clobbered today because we got a lot

1546

01:53:50,400 --> 01:53:57,950

i understand

1547

01:53:57,960 --> 01:54:07,030

[Music]

1548

01:54:07,040 --> 01:54:14,870

to and retrieving the apfr from with 18.

1549

01:54:31,750 --> 01:54:17,109

18.

1550

01:54:31,760 --> 01:55:10,709

that's what i am right now

1551
01:55:14,310 --> 01:55:12,470
and shane the next step that i have for

1552
01:55:17,109 --> 01:55:14,320
you is actually going to be to start

1553
01:55:19,589 --> 01:55:17,119
pre-staging adjustable equipment tethers

1554
01:55:21,270 --> 01:55:19,599
on the mod kit handrail

1555
01:55:22,950 --> 01:55:21,280
and it's looking like the wire tie from

1556
01:55:25,430 --> 01:55:22,960
the cable routing task and that you

1557
01:55:28,070 --> 01:55:25,440
completed in the last cva it might take

1558
01:55:29,750 --> 01:55:28,080
up that entire wine glass stanchion so

1559
01:55:32,390 --> 01:55:29,760
we might have to have you loosen it a

1560
01:55:36,310 --> 01:55:32,400
little bit in order to fit a small hook

1561
01:55:39,669 --> 01:55:38,070
okay um yeah i'll give it a shot but

1562
01:55:41,030 --> 01:55:39,679
it's not all loosen it up

1563
01:55:43,030 --> 01:55:41,040

that sounds good

1564

01:55:45,900 --> 01:55:43,040

um and it's connected on the other end

1565

01:55:48,149 --> 01:55:45,910

so that's that's okay okay all right so

1566

01:55:49,669 --> 01:55:48,159

[Music]

1567

01:55:51,510 --> 01:55:49,679

from this one that i'm looking at i'm

1568

01:55:54,709 --> 01:55:51,520

going through the hand rail correct with

1569

01:56:00,470 --> 01:55:57,189

with the small small you are attaching

1570

01:56:01,669 --> 01:56:00,480

uh from the left upper strut handrail to

1571

01:56:03,350 --> 01:56:01,679

irosa

1572

01:56:06,149 --> 01:56:03,360

and then

1573

01:56:08,229 --> 01:56:06,159

with a large small you're going from

1574

01:56:15,510 --> 01:56:08,239

the stanchion with the wire tie for the

1575

01:56:15,520 --> 01:56:18,790

okay coffee

1576
01:56:23,510 --> 01:56:21,189
don't see the

1577
01:56:41,660 --> 01:56:23,520
levis

1578
01:56:41,670 --> 01:56:51,910
[Music]

1579
01:56:51,920 --> 01:56:56,960
else

1580
01:56:56,970 --> 01:57:08,070
[Music]

1581
01:57:08,080 --> 01:57:11,990
i'm ready

1582
01:57:12,000 --> 01:57:38,709
foreign

1583
01:57:44,149 --> 01:57:40,550
okay jenny i have the one from the upper

1584
01:57:47,830 --> 01:57:45,750
copy that looks great we can see it in

1585
01:57:49,830 --> 01:57:47,840
your helmet cam shane we do have some

1586
01:57:52,070 --> 01:57:49,840
concerns about the

1587
01:57:54,470 --> 01:57:52,080
tether point in the clevis fitting a

1588
01:58:05,589 --> 01:57:54,480

large hook so do you mind fit checking

1589

01:58:09,430 --> 01:58:07,589

and the clubhouse is that that's pretty

1590

01:58:11,830 --> 01:58:09,440

far out boarded me now

1591

01:58:14,070 --> 01:58:11,840

no actually it's it's uh toward the

1592

01:58:16,149 --> 01:58:14,080

center of the mounting bracket it's the

1593

01:58:17,750 --> 01:58:16,159

gold thing which is

1594

01:58:19,189 --> 01:58:17,760

pretty close to the adjustable equipment

1595

01:58:20,709 --> 01:58:19,199

tether that you already put on the

1596

01:58:23,830 --> 01:58:20,719

outboard side

1597

01:58:28,790 --> 01:58:26,950

oh that okay gotcha yep that's it so

1598

01:58:30,390 --> 01:58:28,800

you'll be routing the large small

1599

01:58:31,669 --> 01:58:30,400

adjustable with a large hook through the

1600

01:58:33,510 --> 01:58:31,679

clevis

1601
01:58:35,270 --> 01:58:33,520
down to the

1602
01:58:40,390 --> 01:58:35,280
wine glass stanchion with the wire tie

1603
01:58:44,070 --> 01:58:41,830
okay yeah that looks like it's gonna be

1604
01:58:48,149 --> 01:58:44,080
a little tight let's give it a shot

1605
01:58:52,390 --> 01:58:49,830
and tomah you'll be following the same

1606
01:58:54,229 --> 01:58:52,400
translation path uh outboard that you

1607
01:58:56,310 --> 01:58:54,239
followed in the first iea

1608
01:58:58,709 --> 01:58:56,320
or the first eva so that means a fair

1609
01:59:03,189 --> 01:58:58,719
lead around the iea corner and a fairly

1610
01:59:06,870 --> 01:59:05,510
oh good johnny and uh

1611
01:59:08,470 --> 01:59:06,880
when the fpa fought the english said it

1612
01:59:09,910 --> 01:59:08,480
was extended i actually didn't check

1613
01:59:12,070 --> 01:59:09,920

before i pull it out i think it's gonna

1614

01:59:15,270 --> 01:59:12,080

be fine for the translation but

1615

01:59:17,350 --> 01:59:15,280

i'll exchange put eyes on it

1616

01:59:26,870 --> 01:59:17,360

a bunch of stuff onto you copy good

1617

01:59:31,189 --> 01:59:28,790

so this helmet camera view is from

1618

01:59:33,270 --> 01:59:31,199

tomorrow pesquet he's got the

1619

01:59:35,669 --> 01:59:33,280

foot restraint in toe after grabbing it

1620

01:59:37,830 --> 01:59:35,679

along his translation path or the path

1621

01:59:39,510 --> 01:59:37,840

to get out from the airlock to the work

1622

01:59:42,070 --> 01:59:39,520

site he'll be ingressing it as part of

1623

01:59:44,550 --> 01:59:42,080

the first procedure and though both uh

1624

01:59:46,709 --> 01:59:44,560

pesquet and kimbrough be using the foot

1625

01:59:48,550 --> 01:59:46,719

restraint throughout today's activities

1626
01:59:50,709 --> 01:59:48,560
meanwhile kimbrough getting a head start

1627
01:59:51,669 --> 01:59:50,719
on some of the activities working on a

1628
01:59:55,430 --> 01:59:51,679
tether

1629
01:59:58,629 --> 01:59:55,440
between the strut that is holding uh the

1630
02:00:05,430 --> 01:59:58,639
irosa solar array and the solar array

1631
02:00:05,440 --> 02:00:07,990
i'm shane

1632
02:00:13,290 --> 02:00:09,350
shane i have a warning for you when

1633
02:00:16,470 --> 02:00:14,629
[Music]

1634
02:00:19,189 --> 02:00:16,480
it looks like it's pretty close to where

1635
02:00:21,189 --> 02:00:19,199
you are now when you are on the outboard

1636
02:00:23,030 --> 02:00:21,199
side of the mod kit avoid contacting the

1637
02:00:26,870 --> 02:00:23,040
legacy blanket boxes and the protruding

1638
02:00:26,880 --> 02:00:32,390

okay copy

1639

02:00:32,400 --> 02:00:37,669

and close the brief 38 chain

1640

02:00:37,679 --> 02:00:44,149

see ya

1641

02:00:54,340 --> 02:00:45,430

come on let me know when you're ready

1642

02:00:54,350 --> 02:01:11,030

[Applause]

1643

02:01:11,040 --> 02:01:32,070

hmong

1644

02:01:32,080 --> 02:01:38,560

hey

1645

02:01:38,570 --> 02:01:44,550

[Music]

1646

02:01:49,189 --> 02:01:46,790

so again on the left shane kimbrough

1647

02:01:51,430 --> 02:01:49,199

working on some adjustable equipment

1648

02:01:54,070 --> 02:01:51,440

tethers this is part these are part of

1649

02:01:56,550 --> 02:01:54,080

the procedures that were added uh to

1650

02:01:58,870 --> 02:01:56,560

help secure the uh

1651
02:02:00,070 --> 02:01:58,880
irosa solar array to the mounting

1652
02:02:01,910 --> 02:02:00,080
bracket

1653
02:02:04,310 --> 02:02:01,920
after they were unable to do so on the

1654
02:02:06,310 --> 02:02:04,320
previous spacewalk this is one of the

1655
02:02:09,430 --> 02:02:06,320
additions to the procedures to help

1656
02:02:11,990 --> 02:02:09,440
secure it and align the uh solar array

1657
02:02:13,669 --> 02:02:12,000
meanwhile on the right side to map

1658
02:02:14,870 --> 02:02:13,679
working on getting the foot restraint so

1659
02:02:17,750 --> 02:02:14,880
he can get

1660
02:02:20,790 --> 02:02:17,760
some of the bolts that are needed

1661
02:02:24,149 --> 02:02:20,800
there is a single bolt that will help to

1662
02:02:25,990 --> 02:02:24,159
release the rollout solar array

1663
02:02:28,390 --> 02:02:26,000

right now it's sort of folded in half

1664

02:02:30,149 --> 02:02:28,400

and that will help it to unfold it into

1665

02:02:32,229 --> 02:02:30,159

its position to align

1666

02:02:34,570 --> 02:02:32,239

nice and straight and level onto the

1667

02:02:37,910 --> 02:02:34,580

mounting bracket

1668

02:02:37,920 --> 02:02:57,510

and niner on the yaw correct

1669

02:03:01,109 --> 02:02:59,189

yeah i tried to come through kind of on

1670

02:03:02,470 --> 02:03:01,119

the inboard side towards the center of

1671

02:03:23,930 --> 02:03:02,480

the mounting bracket and outboard and i

1672

02:03:23,940 --> 02:03:31,270

[Applause]

1673

02:03:31,280 --> 02:03:47,109

oh

1674

02:03:51,109 --> 02:03:48,870

then you have the mpfr

1675

02:03:51,910 --> 02:03:51,119

538

1676
02:03:53,669 --> 02:03:51,920
the

1677
02:03:55,420 --> 02:03:53,679
titles are out

1678
02:03:57,580 --> 02:03:55,430
black on black you have

1679
02:04:00,229 --> 02:03:57,590
[Music]

1680
02:04:03,990 --> 02:04:00,239
[Applause]

1681
02:04:09,510 --> 02:04:04,000
that's a good apfr install

1682
02:04:13,510 --> 02:04:12,069
shane it looks like um the config that

1683
02:04:15,430 --> 02:04:13,520
you have with the tethers is good for

1684
02:04:19,830 --> 02:04:15,440
now we can adjust that later if we need

1685
02:04:22,310 --> 02:04:21,430
okay here i was just tempted on it there

1686
02:04:23,589 --> 02:04:22,320
but

1687
02:04:24,950 --> 02:04:23,599
i'll leave it there for now and i think

1688
02:04:27,109 --> 02:04:24,960

next is

1689

02:04:28,229 --> 02:04:27,119

driving the ball correct

1690

02:04:31,589 --> 02:04:28,239

yep that's right you're going to be

1691

02:04:33,990 --> 02:04:31,599

releasing the m bolts that you uh

1692

02:04:35,830 --> 02:04:34,000

drove to torque on the last dva you'll

1693

02:04:37,910 --> 02:04:35,840

be using your pgt for this and as a

1694

02:04:43,550 --> 02:04:37,920

reminder it's a bravo 7 setting so you

1695

02:04:43,560 --> 02:04:46,629

[Music]

1696

02:04:50,790 --> 02:04:49,030

we don't have you in the apfr

1697

02:04:56,149 --> 02:04:50,800

to release these bolts

1698

02:04:58,870 --> 02:04:57,270

and it's right here otherwise it's

1699

02:05:01,910 --> 02:04:58,880

getting in the way

1700

02:05:08,390 --> 02:05:01,920

so let me know if you're good with that

1701

02:05:12,629 --> 02:05:10,229

kimbrough is getting started with the

1702

02:05:16,470 --> 02:05:12,639

pistol grip tool sort of a space drill

1703

02:05:18,310 --> 02:05:16,480

to release a series of four bolts

1704

02:05:21,109 --> 02:05:18,320

that will be needed as part of the

1705

02:05:22,950 --> 02:05:21,119

procedures to unfold the irosa solar

1706

02:05:25,189 --> 02:05:22,960

array

1707

02:05:26,229 --> 02:05:25,199

around it and i can pull

1708

02:05:28,229 --> 02:05:26,239

tomorrow

1709

02:05:30,870 --> 02:05:28,239

i can tuck you i can tuck you through

1710

02:05:33,109 --> 02:05:30,880

that actually your next step is to

1711

02:05:34,470 --> 02:05:33,119

release the

1712

02:05:36,310 --> 02:05:34,480

are six bolts but we're not going to

1713

02:05:37,510 --> 02:05:36,320

have you do that until shane's released

1714

02:05:39,910 --> 02:05:37,520

the m bolts

1715

02:05:41,350 --> 02:05:39,920

and shane evie down here eba continued

1716

02:05:43,270 --> 02:05:41,360

to talk and we are going to have you

1717

02:05:44,790 --> 02:05:43,280

change that tether config

1718

02:05:46,870 --> 02:05:44,800

so a go back

1719

02:05:48,790 --> 02:05:46,880

to the large small hook

1720

02:05:50,950 --> 02:05:48,800

we're going to have you

1721

02:05:51,669 --> 02:05:50,960

swap the hooks on that aet

1722

02:05:54,069 --> 02:05:51,679

so

1723

02:05:56,390 --> 02:05:54,079

that means that the large hook will be

1724

02:05:59,270 --> 02:05:56,400

on the mod kit and the small hook will

1725

02:06:04,790 --> 02:05:59,280

be on irosa but the handrails that you

1726

02:06:08,550 --> 02:06:06,629

and jenny can you remind me what the yaw

1727

02:06:11,750 --> 02:06:08,560

is supposed to be for the

1728

02:06:18,870 --> 02:06:11,760

pfr degree 31

1729

02:06:23,510 --> 02:06:21,270

kim bro going to revisit the adjustable

1730

02:06:24,470 --> 02:06:23,520

equipment tethers that he used to tie

1731

02:06:28,149 --> 02:06:24,480

together

1732

02:06:30,470 --> 02:06:28,159

uh the struts and the irosa the solar

1733

02:06:33,109 --> 02:06:30,480

array itself that's currently positioned

1734

02:06:34,550 --> 02:06:33,119

in a soft dock on the mounting bracket

1735

02:06:38,069 --> 02:06:34,560

this is one of the procedures that was

1736

02:06:40,229 --> 02:06:38,079

added to help to align the irosa once

1737

02:06:42,870 --> 02:06:40,239

it's unfolded to get into a hard dock

1738

02:06:45,910 --> 02:06:42,880

position and begin the procedures for uh

1739

02:06:49,990 --> 02:06:48,310

meanwhile uh pesquet working on the

1740

02:06:52,069 --> 02:06:50,000

adjustable

1741

02:06:54,629 --> 02:06:52,079

foot restraint he'll be entering into

1742

02:06:56,870 --> 02:06:54,639

the foot restraint to get just access to

1743

02:06:58,870 --> 02:06:56,880

one bolt that's needed

1744

02:07:01,030 --> 02:06:58,880

one of the steps once they are done

1745

02:07:02,709 --> 02:07:01,040

driving some of these bolts both of them

1746

02:07:03,669 --> 02:07:02,719

using pistol grip tools or the space

1747

02:07:05,830 --> 02:07:03,679

drills

1748

02:07:08,629 --> 02:07:05,840

the next step will be to unfold the

1749

02:07:12,870 --> 02:07:10,709

we're continuing to answer questions

1750

02:07:14,550 --> 02:07:12,880

using the hashtag ask nasa this next one

1751
02:07:15,830 --> 02:07:14,560
comes from dan on twitter some of the

1752
02:07:18,870 --> 02:07:15,840
views you're seeing

1753
02:07:20,629 --> 02:07:18,880
there are shiny mirrors on their wrists

1754
02:07:22,229 --> 02:07:20,639
that is for controlling

1755
02:07:24,709 --> 02:07:22,239
some of the

1756
02:07:26,550 --> 02:07:24,719
suits temperature control and other

1757
02:07:28,950 --> 02:07:26,560
configurations on the front of their

1758
02:07:30,790 --> 02:07:28,960
suits they're not able to see directly

1759
02:07:32,470 --> 02:07:30,800
those dials and

1760
02:07:35,030 --> 02:07:32,480
and some of the controls on there and so

1761
02:07:36,870 --> 02:07:35,040
the mirrors provide access uh to view

1762
02:07:38,709 --> 02:07:36,880
some of those controls

1763
02:07:40,390 --> 02:07:38,719

before your next step so i'm still

1764

02:07:50,390 --> 02:07:40,400

getting an answer about that apfr

1765

02:07:53,990 --> 02:07:52,550

and shane you can ingress the apfr to

1766

02:07:55,669 --> 02:07:54,000

drive those folds let us know if you

1767

02:08:02,470 --> 02:07:55,679

have any reach issues and again this is

1768

02:08:05,589 --> 02:08:03,830

what's your edge and your right

1769

02:08:06,830 --> 02:08:05,599

underneath

1770

02:08:08,310 --> 02:08:06,840

it'll be too much

1771

02:08:10,310 --> 02:08:08,320

yeah okay

1772

02:08:12,149 --> 02:08:10,320

i think i think you don't have room to

1773

02:08:14,470 --> 02:08:12,159

do it unless you

1774

02:08:16,709 --> 02:08:14,480

just lean back unlocked

1775

02:08:17,589 --> 02:08:16,719

on the most pnt

1776

02:08:19,830 --> 02:08:17,599

yeah

1777

02:08:22,470 --> 02:08:19,840

that's a good call

1778

02:08:26,310 --> 02:08:22,480

and jenny for r6 has to be my fine wave

1779

02:08:28,950 --> 02:08:27,589

okay copy

1780

02:08:34,830 --> 02:08:28,960

just be aware of your head clearance

1781

02:09:43,430 --> 02:08:38,470

other visuals are also insane for now

1782

02:09:46,870 --> 02:09:44,229

we're

1783

02:09:51,270 --> 02:09:46,880

expecting 14 turns the bolts should

1784

02:09:51,280 --> 02:10:02,069

kathy

1785

02:10:06,069 --> 02:10:04,229

from this angle on the left you can see

1786

02:10:08,870 --> 02:10:06,079

shane kimbrough he currently has a

1787

02:10:10,790 --> 02:10:08,880

pistol grip tool working with four bolts

1788

02:10:13,270 --> 02:10:10,800

those four bolts need to be unscrewed

1789

02:10:15,589 --> 02:10:13,280

first uh before tomah pesquet you see on

1790

02:10:16,790 --> 02:10:15,599

the right can access his bolt now he's

1791

02:10:19,270 --> 02:10:16,800

in position

1792

02:10:22,390 --> 02:10:19,280

right in front of the what will be the

1793

02:10:24,390 --> 02:10:22,400

middle of the uh irosa and he's got to

1794

02:10:26,229 --> 02:10:24,400

access one bolt after kim bro is done

1795

02:10:28,550 --> 02:10:26,239

with his four

1796

02:10:30,390 --> 02:10:28,560

and tomah well shane is releasing the m

1797

02:10:31,430 --> 02:10:30,400

bolts another small change to the

1798

02:10:33,830 --> 02:10:31,440

procedure

1799

02:10:36,149 --> 02:10:33,840

since we're swapping between two sockets

1800

02:10:38,390 --> 02:10:36,159

which are on either of your ptts

1801
02:10:41,430 --> 02:10:38,400
today we're actually going to pre-stage

1802
02:10:44,470 --> 02:10:41,440
both pgt's temp stowing them on the mod

1803
02:10:47,750 --> 02:10:44,480
kit so we have as written for you to

1804
02:10:49,669 --> 02:10:47,760
release r6 next but while you're waiting

1805
02:10:55,350 --> 02:10:49,679
if you can reach you can temp stow your

1806
02:10:55,360 --> 02:10:56,950
holy handrail

1807
02:11:02,069 --> 02:10:58,310
right back

1808
02:11:09,510 --> 02:11:04,390
copy if you can't there's no rush we can

1809
02:11:09,520 --> 02:11:15,030
i'll well that

1810
02:11:20,069 --> 02:11:16,470
all right trying to get a body position

1811
02:11:22,069 --> 02:11:20,079
we got the m34s out jenny

1812
02:11:28,069 --> 02:11:22,079
copy m34 release do you have a turn

1813
02:11:28,079 --> 02:11:49,910

m34 released

1814

02:11:49,920 --> 02:12:04,390

nice work shane

1815

02:12:04,400 --> 02:12:08,470

gonna be sweet

1816

02:12:08,480 --> 02:12:15,420

there's another one over here

1817

02:12:15,430 --> 02:12:57,430

[Applause]

1818

02:12:57,440 --> 02:13:20,790

copy

1819

02:13:20,800 --> 02:13:28,310

okay bravo seven counter two sets

1820

02:13:28,320 --> 02:13:38,790

copy m32

1821

02:13:42,830 --> 02:13:40,470

from the helmet camera view of shane

1822

02:13:45,510 --> 02:13:42,840

kimrow two bolts down two to

1823

02:13:47,750 --> 02:13:45,520

go after he's done with his final two

1824

02:13:49,669 --> 02:13:47,760

bolts uh tomah peskey will be axed be

1825

02:14:09,910 --> 02:13:49,679

able to access the bolt that he's

1826

02:14:09,920 --> 02:14:15,510

copy 16 turns m32 released

1827

02:14:23,350 --> 02:14:17,830

i haven't seen that

1828

02:14:29,669 --> 02:14:24,950

yeah i mean it's mine or loose right now

1829

02:14:29,679 --> 02:14:34,149

very good position okay

1830

02:14:38,149 --> 02:14:36,629

three bolts down kim bro driving his

1831

02:14:39,990 --> 02:14:38,159

fourth and final bolt

1832

02:14:41,510 --> 02:14:40,000

we actually like how loose they are for

1833

02:14:43,189 --> 02:14:41,520

now because that'll give us a lot of

1834

02:14:51,430 --> 02:14:43,199

play when we try and get the alignment

1835

02:14:56,229 --> 02:14:53,830

but not too much play either so

1836

02:14:57,830 --> 02:14:56,239

yeah you'll play by year yep

1837

02:14:59,589 --> 02:14:57,840

understood you'll definitely be using

1838

02:15:04,069 --> 02:14:59,599

your judgment to make sure that they are

1839

02:15:08,950 --> 02:15:07,430

i've been 33 jimmy about probably 15

1840

02:15:21,030 --> 02:15:08,960

times

1841

02:15:28,950 --> 02:15:23,669

so ma those are three of the four m

1842

02:15:32,149 --> 02:15:29,480

copy

1843

02:15:34,790 --> 02:15:32,159

[Music]

1844

02:15:42,870 --> 02:15:34,800

i'm going to cal and then north

1845

02:15:47,350 --> 02:15:45,510

correction kimbrough drove three bolts

1846

02:15:49,350 --> 02:15:47,360

now working on the fourth and final

1847

02:15:51,830 --> 02:15:49,360

while pesquet readies the pistol grip

1848

02:15:53,990 --> 02:15:51,840

tool or the space drill

1849

02:15:55,270 --> 02:15:54,000

to access his bolt that he's currently

1850

02:15:56,709 --> 02:15:55,280

in position in

1851
02:16:06,550 --> 02:15:56,719
on top of the foot restraint on the

1852
02:16:06,560 --> 02:16:12,870
counter to 16.0

1853
02:16:18,310 --> 02:16:16,470
all right 15 times there and 31 is just

1854
02:16:21,750 --> 02:16:18,320
which is released

1855
02:16:23,589 --> 02:16:21,760
copy 15 turns on m31 great job shane

1856
02:16:26,709 --> 02:16:23,599
those are all the m bolts released we're

1857
02:16:31,990 --> 02:16:26,719
gonna have you temp stow your pgf now on

1858
02:16:36,549 --> 02:16:34,070
okay

1859
02:16:39,349 --> 02:16:36,559
again go for our six jenny

1860
02:16:42,070 --> 02:16:39,359
yep you have a go to release r6 tomah

1861
02:16:54,629 --> 02:16:42,080
we're expecting 18 to 20 turns the bolt

1862
02:16:58,070 --> 02:16:56,790
be mindful that when you're releasing

1863
02:17:01,349 --> 02:16:58,080

this bolt

1864

02:17:02,709 --> 02:17:01,359

uh it is the bolt holding the free side

1865

02:17:04,070 --> 02:17:02,719

of my rosa

1866

02:17:05,429 --> 02:17:04,080

to the side which is attached to the

1867

02:17:08,950 --> 02:17:05,439

mounting bracket so we'll want to be

1868

02:17:12,790 --> 02:17:09,910

daniel

1869

02:17:17,589 --> 02:17:15,669

not yet let me stay on this pgt and then

1870

02:17:20,629 --> 02:17:17,599

i'll with you

1871

02:17:24,309 --> 02:17:20,639

so i'll stop right there okay 15 right

1872

02:17:24,319 --> 02:17:29,030

we copy

1873

02:17:32,629 --> 02:17:30,950

kimbrough putting away the space drill

1874

02:17:35,990 --> 02:17:32,639

that he's been using the pistol grip

1875

02:17:38,549 --> 02:17:36,000

tool in his tool bag meanwhile pesquet

1876

02:17:41,349 --> 02:17:38,559

uh driving his single bolt

1877

02:17:43,030 --> 02:17:41,359

on his side of the irosa once this is

1878

02:17:45,190 --> 02:17:43,040

complete he will get out of the foot

1879

02:17:47,850 --> 02:17:45,200

restraint and together pesquet and

1880

02:17:50,150 --> 02:17:47,860

kimbra will work to unfold the irosa

1881

02:18:14,549 --> 02:17:50,160

[Music]

1882

02:18:16,549 --> 02:18:14,559

so i'm driving r6 this is the release

1883

02:18:19,910 --> 02:18:16,559

bulb so make sure it doesn't

1884

02:18:21,110 --> 02:18:19,920

uh unfold inappropriately i think

1885

02:18:22,150 --> 02:18:21,120

okay

1886

02:18:23,830 --> 02:18:22,160

you're ready

1887

02:18:26,070 --> 02:18:23,840

we agree and shane if you could just

1888

02:18:28,549 --> 02:18:26,080

maintain control of that free end when

1889

02:18:32,629 --> 02:18:28,559

uh tomah releases the bolt and egresses

1890

02:18:37,589 --> 02:18:34,709

i got it

1891

02:18:39,750 --> 02:18:37,599

we got 20 turns

1892

02:18:42,070 --> 02:18:39,760

results popped out

1893

02:18:43,429 --> 02:18:42,080

so i'm going to go ahead and egress the

1894

02:18:46,629 --> 02:18:43,439

fgfr

1895

02:18:48,629 --> 02:18:46,639

copy 20 turns on r6 volt popped out we

1896

02:18:50,870 --> 02:18:48,639

agree you can egress the apfr and again

1897

02:19:06,389 --> 02:18:50,880

you'll be temp stowing your pgt

1898

02:19:11,349 --> 02:19:09,110

shane you'll be staying in this config

1899

02:19:13,910 --> 02:19:11,359

until tomorrow attempts that pgt and

1900

02:19:19,110 --> 02:19:13,920

pre-stages his tethers on the outboard

1901

02:19:19,120 --> 02:19:25,110

yeah thanks jimmy

1902

02:19:29,669 --> 02:19:27,910

with that bolt uh driven out by tomah

1903

02:19:32,070 --> 02:19:29,679

pesquet you see him getting out of the

1904

02:19:33,589 --> 02:19:32,080

foot restraint

1905

02:19:36,629 --> 02:19:33,599

that will allow him to get into a

1906

02:19:39,509 --> 02:19:36,639

position as kimbrough continues to hold

1907

02:19:41,990 --> 02:19:39,519

the uh irosa solar ray in in place that

1908

02:19:43,830 --> 02:19:42,000

front part uh now loose and able to

1909

02:19:46,469 --> 02:19:43,840

swing out in front but he'll need the

1910

02:19:51,110 --> 02:19:46,479

help of toma pesquet for this next set

1911

02:19:55,510 --> 02:19:53,510

capita we suggest

1912

02:20:17,030 --> 02:19:55,520

temps throwing the ptt on the stanchion

1913

02:20:20,550 --> 02:20:18,469

closer to the mounting bracket we just

1914

02:20:22,870 --> 02:20:20,560

suggest it's the stanchion the wine

1915

02:20:24,710 --> 02:20:22,880

glass stanchion which is furthest from

1916

02:20:26,150 --> 02:20:24,720

the mounting bracket so that you don't

1917

02:20:27,750 --> 02:20:26,160

strawberry the one at the top because

1918

02:20:29,830 --> 02:20:27,760

that'll have a adjustable equipment

1919

02:20:32,469 --> 02:20:29,840

tether hook on it as well as the wire

1920

02:20:41,910 --> 02:20:34,950

i got you thanks for the clarification

1921

02:20:41,920 --> 02:21:05,349

all right

1922

02:21:05,359 --> 02:21:41,190

um

1923

02:21:50,389 --> 02:21:43,190

pgp doesn't have a wrap on it so i'll

1924

02:21:54,150 --> 02:21:51,750

the right for my mini workstation

1925

02:21:59,110 --> 02:21:56,790

you can also keep the pgt in your swing

1926
02:22:01,190 --> 02:21:59,120
arm and lock the bayonet fitting as long

1927
02:22:06,550 --> 02:22:01,200
as it's in sight then you can move your

1928
02:22:10,790 --> 02:22:07,220
move the right

1929
02:22:12,389 --> 02:22:10,800
[Music]

1930
02:22:19,429 --> 02:22:12,399
as long as it's in view and you can see

1931
02:22:23,670 --> 02:22:21,190
what'd you do

1932
02:22:24,870 --> 02:22:23,680
i had another one on there

1933
02:22:26,710 --> 02:22:24,880
yeah i did

1934
02:22:27,990 --> 02:22:26,720
okay

1935
02:22:33,990 --> 02:22:28,000
you can just keep it in there and just

1936
02:22:37,990 --> 02:22:36,230
another hand over a video from the

1937
02:22:39,990 --> 02:22:38,000
international space station again we'll

1938
02:22:42,230 --> 02:22:40,000

be having these handovers periodically

1939

02:22:44,630 --> 02:22:42,240

what you were seeing before we lost uh

1940

02:22:46,950 --> 02:22:44,640

that signal was the helmet camera view

1941

02:22:49,110 --> 02:22:46,960

from shane kimbrough looking at tomah

1942

02:22:51,349 --> 02:22:49,120

pesquet he's finding the right place to

1943

02:22:52,389 --> 02:22:51,359

stow that pistol grip tool that space

1944

02:22:54,230 --> 02:22:52,399

drill

1945

02:22:56,710 --> 02:22:54,240

because the next set of procedures will

1946

02:23:01,349 --> 02:22:56,720

be together kimbrough and pesquet

1947

02:23:03,590 --> 02:23:01,359

working to unfold the irosa

1948

02:23:06,070 --> 02:23:03,600

pesquet is ready with some tethers to

1949

02:23:09,349 --> 02:23:06,080

ready to strap his end once kimbro

1950

02:23:15,030 --> 02:23:09,359

unfolds it from his side

1951

02:23:18,790 --> 02:23:17,510

all right jenny how about i keep my pg

1952

02:23:20,870 --> 02:23:18,800

and then we

1953

02:23:21,750 --> 02:23:20,880

need it to shine when he needs it

1954

02:23:23,270 --> 02:23:21,760

yep

1955

02:23:25,190 --> 02:23:23,280

that's totally fine we're just trying to

1956

02:23:34,469 --> 02:23:25,200

save you a socket swap and that also

1957

02:23:39,349 --> 02:23:36,790

your next step tomorrow is to translate

1958

02:23:53,830 --> 02:23:39,359

to the right outboard side

1959

02:23:57,270 --> 02:23:54,710

you'll be

1960

02:24:00,309 --> 02:23:57,280

staging an adjustable equipment tether

1961

02:24:02,630 --> 02:24:00,319

uh to attach to a rosa once we unfold it

1962

02:24:07,590 --> 02:24:02,640

so i have that handrail stanchion when

1963

02:24:11,510 --> 02:24:09,349

please

1964

02:24:13,910 --> 02:24:11,520

you'll be attaching the small small

1965

02:24:16,070 --> 02:24:13,920

adjustable with the hook going to the

1966

02:24:17,670 --> 02:24:16,080

right upper strut handrail

1967

02:24:19,349 --> 02:24:17,680

looks like you just put a tether down

1968

02:24:25,110 --> 02:24:19,359

there make sure that it's the stanchion

1969

02:24:28,550 --> 02:24:27,429

copy

1970

02:24:30,389 --> 02:24:28,560

right

1971

02:24:32,150 --> 02:24:30,399

upper strut

1972

02:24:35,030 --> 02:24:32,160

and rail extension closest to the

1973

02:24:47,270 --> 02:24:35,040

melting brackets

1974

02:24:47,280 --> 02:24:52,150

okay i have an aet stage there

1975

02:24:54,870 --> 02:24:53,750

copy i'll take a glove inspection half

1976

02:24:59,750 --> 02:24:54,880

check and gauntlet check from you

1977

02:25:04,150 --> 02:25:01,750

okay happy drive

1978

02:25:06,309 --> 02:25:04,160

glass there's some black smudge from the

1979

02:25:07,750 --> 02:25:06,319

translation but they're in a very good

1980

02:25:10,640 --> 02:25:07,760

state

1981

02:25:14,790 --> 02:25:10,650

um

1982

02:25:17,750 --> 02:25:16,630

we'll be hearing hap and glove checks

1983

02:25:20,950 --> 02:25:17,760

throughout the duration of today's

1984

02:25:23,270 --> 02:25:20,960

spacewalk making sure uh their helmet uh

1985

02:25:25,270 --> 02:25:23,280

absorption pad that's on the inside of

1986

02:25:27,990 --> 02:25:25,280

their spacesuit helmet make sure that's

1987

02:25:29,590 --> 02:25:28,000

dry as well as the gloves are not

1988

02:25:30,870 --> 02:25:29,600

scuffed up from some of the activities

1989

02:25:32,950 --> 02:25:30,880

they're performing

1990

02:25:35,510 --> 02:25:32,960

mainly with their hands

1991

02:25:37,750 --> 02:25:35,520

the large small adjustable we're

1992

02:25:39,030 --> 02:25:37,760

attaching the large hook

1993

02:25:41,030 --> 02:25:39,040

to the

1994

02:25:42,309 --> 02:25:41,040

handrail with the

1995

02:25:47,590 --> 02:25:42,319

wire tied

1996

02:25:53,429 --> 02:25:49,670

so on the

1997

02:25:57,270 --> 02:25:55,110

is that correct yep that's right the

1998

02:25:58,469 --> 02:25:57,280

lower strut upper hand rail and since

1999

02:26:04,830 --> 02:25:58,479

it's a large hook it doesn't matter

2000

02:26:04,840 --> 02:26:13,670

okay of the adjustable

2001
02:26:18,389 --> 02:26:15,110
part of the procedures that were added

2002
02:26:20,630 --> 02:26:18,399
to today's spacewalk to help to align

2003
02:26:22,790 --> 02:26:20,640
the irosa with the mounting bracket you

2004
02:26:25,190 --> 02:26:22,800
see it now from this great view of

2005
02:26:27,349 --> 02:26:25,200
tamapesque is to use a series of tethers

2006
02:26:30,550 --> 02:26:27,359
the tether is being wrapped around both

2007
02:26:32,070 --> 02:26:30,560
the solar array and the mounting bracket

2008
02:26:33,990 --> 02:26:32,080
to full extension

2009
02:26:36,070 --> 02:26:34,000
warning there's a pinch point to keep

2010
02:26:50,790 --> 02:26:36,080
clear of rotating arosa so again

2011
02:26:50,800 --> 02:27:13,750
yep

2012
02:27:13,760 --> 02:27:18,870
ready go okay

2013
02:27:18,880 --> 02:27:23,110

okay i'm ready now

2014

02:27:47,110 --> 02:27:24,790

and the solar array now beginning to

2015

02:27:47,120 --> 02:28:00,710

all right looking good

2016

02:28:03,670 --> 02:28:01,750

okay

2017

02:28:05,309 --> 02:28:03,680

so then uh

2018

02:28:08,070 --> 02:28:05,319

it's unfolded

2019

02:28:10,830 --> 02:28:08,080

135 just like last time i don't have

2020

02:28:12,630 --> 02:28:10,840

visual on the alignment guide

2021

02:28:14,550 --> 02:28:12,640

um but i'm guessing we're in the same

2022

02:28:15,750 --> 02:28:14,560

situation as last time

2023

02:28:18,070 --> 02:28:15,760

expected

2024

02:28:19,910 --> 02:28:18,080

okay copy we do have a step for you to

2025

02:28:22,630 --> 02:28:19,920

check but we're expecting exactly the

2026

02:28:24,469 --> 02:28:22,640

same thing like you said so we can have

2027

02:28:26,790 --> 02:28:24,479

you connect your adjustable equipment

2028

02:28:28,710 --> 02:28:26,800

tethers to irosa

2029

02:28:30,230 --> 02:28:28,720

they'll both be going to the arosa

2030

02:28:31,349 --> 02:28:30,240

handrail which is directly in front of

2031

02:28:33,750 --> 02:28:31,359

you because

2032

02:28:40,710 --> 02:28:33,760

our plan to attach to the irosa clevis

2033

02:28:44,790 --> 02:28:42,710

shane of course you can help tomas

2034

02:28:47,110 --> 02:28:44,800

stabilize erotica if he needs it but

2035

02:28:49,670 --> 02:28:47,120

your next step is to

2036

02:28:57,429 --> 02:28:49,680

install a wire tie around the center

2037

02:29:02,150 --> 02:28:59,590

okay i'll get working on that

2038

02:29:03,190 --> 02:29:02,160

i got the large small ap on the handle

2039

02:29:06,710 --> 02:29:03,200

jenny

2040

02:29:06,720 --> 02:29:17,910

happy

2041

02:29:25,190 --> 02:29:20,309

now with

2042

02:29:27,110 --> 02:29:25,200

space walkers will work together to help

2043

02:29:29,910 --> 02:29:27,120

with the alignment

2044

02:29:32,820 --> 02:29:29,920

using some adjustable tethers and wire

2045

02:29:40,060 --> 02:29:32,830

ties

2046

02:29:44,630 --> 02:29:42,710

[Applause]

2047

02:29:46,389 --> 02:29:44,640

once the solar array is aligned the

2048

02:29:48,790 --> 02:29:46,399

space walkers will grab those space

2049

02:29:51,030 --> 02:29:48,800

drills they were using to unbolt

2050

02:29:53,110 --> 02:29:51,040

and they'll start bolting the

2051

02:30:00,550 --> 02:29:53,120

solar array into place

2052

02:30:04,710 --> 02:30:02,550

using the hashtag ask nasa we got a

2053

02:30:06,230 --> 02:30:04,720

question from on twitter why is it

2054

02:30:08,150 --> 02:30:06,240

important to count the rotations when

2055

02:30:17,750 --> 02:30:08,160

loosening the bolts

2056

02:30:17,760 --> 02:30:25,030

both those adjustables are on irosa

2057

02:30:25,040 --> 02:30:28,950

correct

2058

02:30:35,590 --> 02:30:32,150

i um the next step is really us working

2059

02:30:39,510 --> 02:30:38,070

try and reinstall our rosa

2060

02:30:41,349 --> 02:30:39,520

in this new config on the mounting

2061

02:30:43,510 --> 02:30:41,359

bracket but

2062

02:30:45,750 --> 02:30:43,520

we'll have shane finish those actions

2063

02:30:48,469 --> 02:30:45,760

with the wire tie on the middle soft

2064

02:31:02,950 --> 02:30:48,479

capture feature prior to doing that so

2065

02:31:02,960 --> 02:31:06,950

stop working on the mli if i can

2066

02:31:11,910 --> 02:31:10,469

so we might touch it again so

2067

02:31:14,070 --> 02:31:11,920

yeah we have a step

2068

02:31:16,469 --> 02:31:14,080

we have a step later on for the for the

2069

02:31:18,469 --> 02:31:16,479

mli thomas but we can talk it if you

2070

02:31:20,630 --> 02:31:18,479

want to get started early i would like

2071

02:31:22,550 --> 02:31:20,640

to check if from your current vantage

2072

02:31:24,230 --> 02:31:22,560

point can you see all three alignment

2073

02:31:29,429 --> 02:31:24,240

features on the outboard side of the

2074

02:31:34,150 --> 02:31:31,590

when you uh you are breaking up jenny i

2075

02:31:36,389 --> 02:31:34,160

didn't copy um i can complete another

2076

02:31:38,870 --> 02:31:36,399

half of your message thank you no

2077

02:31:40,710 --> 02:31:38,880

problem i want to check if from your

2078

02:31:56,070 --> 02:31:40,720

position on the outboard side you can

2079

02:31:59,830 --> 02:31:58,469

see one two

2080

02:32:01,510 --> 02:31:59,840

three yeah

2081

02:32:02,870 --> 02:32:01,520

you can see all three of them

2082

02:32:11,270 --> 02:32:02,880

poppy that's good to know thanks

2083

02:32:15,110 --> 02:32:12,950

jenny i got the wire turn on i got the

2084

02:32:17,750 --> 02:32:15,120

adjustable connected to it and that goes

2085

02:32:19,030 --> 02:32:17,760

to the lower stanchion right yep the

2086

02:32:25,830 --> 02:32:19,040

stanchion furthest from the mounting

2087

02:32:25,840 --> 02:32:35,349

some work

2088

02:32:40,230 --> 02:32:37,750

again pesquet and kimbrough working

2089

02:32:42,790 --> 02:32:40,240

together using a series of

2090

02:32:44,950 --> 02:32:42,800

adjustable straps and wire ties to help

2091

02:32:47,349 --> 02:32:44,960

with the alignment of the solar array

2092

02:32:49,270 --> 02:32:47,359

onto the mounting bracket that'll help

2093

02:32:52,230 --> 02:32:49,280

help to align all the features to allow

2094

02:32:54,790 --> 02:32:52,240

them to bolt and secure fully installing

2095

02:32:56,790 --> 02:32:54,800

the irosa to the mounting bracket and

2096

02:33:07,349 --> 02:32:56,800

allow for a deployment later in today's

2097

02:33:11,510 --> 02:33:09,590

and shane we want to tighten that

2098

02:33:13,510 --> 02:33:11,520

adjustable up

2099

02:33:15,510 --> 02:33:13,520

as much as you think is necessary so

2100

02:33:17,030 --> 02:33:15,520

that that soft capture feature stays

2101
02:33:22,150 --> 02:33:17,040
down and out of the way for this

2102
02:33:22,160 --> 02:33:57,910
yourself

2103
02:33:57,920 --> 02:34:03,110
all right now we got that on there

2104
02:34:03,120 --> 02:34:10,230
copy

2105
02:34:10,240 --> 02:34:34,230
all right i'm going to tighten it up

2106
02:34:38,230 --> 02:34:35,750
okay and we put all the way down and

2107
02:34:39,830 --> 02:34:38,240
then tighten it right

2108
02:34:44,950 --> 02:34:39,840
hey friend we want it all the way down

2109
02:34:44,960 --> 02:34:48,070
okay

2110
02:34:48,080 --> 02:34:51,990
well it's not quite there

2111
02:34:52,000 --> 02:35:14,710
it'll reach

2112
02:35:17,270 --> 02:35:15,990
if i can move it to the other hook

2113
02:35:18,870 --> 02:35:17,280

tomorrow i won't

2114

02:35:20,309 --> 02:35:18,880

too much slack in that one

2115

02:35:22,469 --> 02:35:20,319

right after it's not going to worry kind

2116

02:35:24,070 --> 02:35:22,479

of much uh go around one more time with

2117

02:35:31,990 --> 02:35:24,080

the white pack

2118

02:35:46,230 --> 02:35:33,429

yeah that sounds good to us shane well

2119

02:35:50,309 --> 02:35:48,150

again what's being worked on now is an

2120

02:35:52,630 --> 02:35:50,319

addition from the previous spacewalk to

2121

02:35:54,790 --> 02:35:52,640

help with the alignment of the irosa

2122

02:35:56,710 --> 02:35:54,800

onto the mounting bracket

2123

02:35:58,070 --> 02:35:56,720

with these straps and wire ties helping

2124

02:36:00,230 --> 02:35:58,080

with the alignment they'll be able to

2125

02:36:01,830 --> 02:36:00,240

secure it using bolts to the mounting

2126
02:36:04,550 --> 02:36:01,840
bracket you

2127
02:36:19,990 --> 02:36:04,560
can ingress the apfr and then i have big

2128
02:36:20,000 --> 02:36:41,990
maybe i can even it should off

2129
02:36:42,000 --> 02:36:59,590
all right

2130
02:36:59,600 --> 02:37:06,790
there you go

2131
02:37:06,800 --> 02:37:11,270
all right my charger is up

2132
02:37:11,280 --> 02:37:24,230
happy

2133
02:37:27,910 --> 02:37:26,070
now entering into an orbital night time

2134
02:37:30,230 --> 02:37:27,920
the views outside the international

2135
02:37:32,469 --> 02:37:30,240
space station getting a little darker as

2136
02:37:34,710 --> 02:37:32,479
we cross over the terminator

2137
02:37:38,070 --> 02:37:34,720
line into an orbital night

2138
02:38:03,429 --> 02:37:38,080

station 269 statute miles over the south

2139

02:38:08,870 --> 02:38:06,070

genuine position i think

2140

02:38:11,110 --> 02:38:08,880

okay so if shane you're in the apfr then

2141

02:38:16,469 --> 02:38:11,120

i have big picture words on our next

2142

02:38:20,389 --> 02:38:19,270

okay iron man

2143

02:38:22,630 --> 02:38:20,399

okay

2144

02:38:24,630 --> 02:38:22,640

so the plan here is we are going to try

2145

02:38:26,550 --> 02:38:24,640

and keep the leftmost soft capture

2146

02:38:28,950 --> 02:38:26,560

feature engaged and straighten out our

2147

02:38:32,790 --> 02:38:28,960

rosa then pivot it onto the mounting

2148

02:38:35,750 --> 02:38:33,910

actually

2149

02:38:37,270 --> 02:38:35,760

hold saying we'll have you power psyche

2150

02:38:43,910 --> 02:38:37,280

your heka quickly we just lost your

2151
02:38:59,030 --> 02:38:45,270
and we're looking for a check of both

2152
02:39:02,630 --> 02:39:01,349
waiting for next steps from the ground

2153
02:39:04,950 --> 02:39:02,640
iv the voice you're hearing in mission

2154
02:39:06,389 --> 02:39:04,960
control houston jenny said

2155
02:39:08,070 --> 02:39:06,399
giving instructions these all

2156
02:39:10,309 --> 02:39:08,080
troubleshooting steps

2157
02:39:12,469 --> 02:39:10,319
additions to help with the alignment of

2158
02:39:14,950 --> 02:39:12,479
the iros to the mounting bracket next

2159
02:39:18,710 --> 02:39:14,960
step is to get the irosa into a soft

2160
02:39:19,830 --> 02:39:18,720
dock or soft capture rather position

2161
02:39:21,910 --> 02:39:19,840
thanks shane

2162
02:39:23,190 --> 02:39:21,920
we're looking into it folks they're

2163
02:39:25,910 --> 02:39:23,200

checking

2164

02:39:27,349 --> 02:39:25,920

okay so again big picture we're going to

2165

02:39:28,870 --> 02:39:27,359

try and unfold and then pivot onto the

2166

02:39:31,110 --> 02:39:28,880

mounting bracket with the pivot point

2167

02:39:33,190 --> 02:39:31,120

being the leftmost soft capture feature

2168

02:39:35,830 --> 02:39:33,200

so working together tomah you'll be

2169

02:39:37,750 --> 02:39:35,840

pulling iroza outboard

2170

02:39:40,469 --> 02:39:37,760

shane you'll be pushing the right side

2171

02:39:42,790 --> 02:39:40,479

of my rosa outboard toward tomah but

2172

02:39:45,750 --> 02:39:42,800

you'll also be pulling the left side of

2173

02:39:47,830 --> 02:39:45,760

my rosa near the hinge toward you to

2174

02:40:04,550 --> 02:39:47,840

make sure that i rosa is fully unfolded

2175

02:40:04,560 --> 02:40:16,150

the right

2176
02:40:23,429 --> 02:40:19,110
hey jenny what can i touch here to push

2177
02:40:27,349 --> 02:40:25,590
you can touch the

2178
02:40:31,510 --> 02:40:27,359
stanchions that are sticking out toward

2179
02:40:36,309 --> 02:40:34,309
the folding and unfolding bolts like r6

2180
02:40:41,910 --> 02:40:36,319
you can touch those and check in on the

2181
02:40:44,790 --> 02:40:43,110
i think those will be good enough on

2182
02:40:46,309 --> 02:40:44,800
each side okay you can also touch

2183
02:40:51,110 --> 02:40:46,319
anything on the root beam if that's

2184
02:40:51,120 --> 02:40:54,309
okay thanks

2185
02:41:03,110 --> 02:40:56,550
and we have your question i'm

2186
02:41:08,630 --> 02:41:06,469
you ready yeah i'm ready so um i think

2187
02:41:10,870 --> 02:41:08,640
you're gonna have to pull on the

2188
02:41:11,830 --> 02:41:10,880

on the center parts but

2189

02:41:13,429 --> 02:41:11,840

on the

2190

02:41:15,269 --> 02:41:13,439

left

2191

02:41:17,750 --> 02:41:15,279

side of our rosa

2192

02:41:18,950 --> 02:41:17,760

and then i'll pull on the right one that

2193

02:41:20,870 --> 02:41:18,960

should

2194

02:41:23,190 --> 02:41:20,880

fold it and bring it down

2195

02:41:26,950 --> 02:41:23,200

okay so nice and slow okay coming

2196

02:41:31,269 --> 02:41:29,269

go for it slowly

2197

02:41:32,630 --> 02:41:31,279

not going anywhere yeah you know how

2198

02:41:37,750 --> 02:41:32,640

hard it was getting it in i think it's

2199

02:41:40,469 --> 02:41:39,349

little pulses on it i'm doing a bit

2200

02:41:42,830 --> 02:41:40,479

nothing

2201

02:41:45,910 --> 02:41:42,840

yeah but i think i think it's good

2202

02:41:48,630 --> 02:41:45,920

enough yeah it's engaging

2203

02:41:54,150 --> 02:41:48,640

okay it's a line okay can you push on

2204

02:41:58,309 --> 02:41:56,469

switching down can you control the right

2205

02:41:59,349 --> 02:41:58,319

side for a moment i have the right side

2206

02:42:02,950 --> 02:41:59,359

and the left

2207

02:42:06,150 --> 02:42:04,469

okay

2208

02:42:13,349 --> 02:42:06,160

i think it's going good let me get out

2209

02:42:22,150 --> 02:42:16,870

a little bit out there there you go yeah

2210

02:42:25,190 --> 02:42:24,389

i must not quite but

2211

02:42:33,990 --> 02:42:25,200

if

2212

02:42:39,030 --> 02:42:36,230

i have a lot of strength there i mean

2213

02:42:56,550 --> 02:42:39,040

i'm just so far reached out

2214

02:43:00,469 --> 02:42:58,230

hard to see but from this view we have

2215

02:43:02,710 --> 02:43:00,479

uh shane kimbrough on the left toma

2216

02:43:04,790 --> 02:43:02,720

pesque on the right he's pushing the

2217

02:43:06,710 --> 02:43:04,800

right side of the irosa trying to get it

2218

02:43:11,349 --> 02:43:06,720

into a soft capture position on the

2219

02:43:14,630 --> 02:43:13,590

your soft capture one looks like it's

2220

02:43:16,469 --> 02:43:14,640

still out

2221

02:43:19,030 --> 02:43:16,479

it may not be all the way out but i

2222

02:43:22,309 --> 02:43:19,040

think it's in the

2223

02:43:37,670 --> 02:43:22,319

river and you know stop that position

2224

02:43:37,680 --> 02:43:56,710

second

2225

02:43:56,720 --> 02:44:04,389

like it came in a little better

2226

02:44:04,399 --> 02:44:11,030

that's just a lot of friction

2227

02:44:15,670 --> 02:44:13,910

see it on the back yeah see if it slides

2228

02:44:18,309 --> 02:44:15,680

in but it starts

2229

02:44:20,950 --> 02:44:18,319

okay so in the same situation we were no

2230

02:44:23,030 --> 02:44:20,960

no no it's a line now yeah but over here

2231

02:44:25,030 --> 02:44:23,040

on the side when we started

2232

02:44:30,710 --> 02:44:25,040

just gonna have to

2233

02:44:34,710 --> 02:44:33,030

it's lying that's good news

2234

02:44:35,429 --> 02:44:34,720

yeah but

2235

02:44:40,150 --> 02:44:35,439

we

2236

02:44:41,590 --> 02:44:40,160

judgments not entirely down but mostly

2237

02:44:43,670 --> 02:44:41,600

down

2238

02:45:07,590 --> 02:44:43,680

hey they can't get a good body position

2239

02:45:07,600 --> 02:45:14,309

so i have to

2240

02:45:18,790 --> 02:45:16,710

another handover period uh losing video

2241

02:45:20,389 --> 02:45:18,800

from the international space station as

2242

02:45:23,190 --> 02:45:20,399

the station orbits the earth handing

2243

02:45:25,830 --> 02:45:23,200

over from tdrs or tracking a data relay

2244

02:45:27,590 --> 02:45:25,840

satellite to tdrs uh we'll be regaining

2245

02:45:29,590 --> 02:45:27,600

some of that video shortly the last view

2246

02:45:31,110 --> 02:45:29,600

you saw was from the helmet camera of

2247

02:45:33,110 --> 02:45:31,120

shane kimbrough

2248

02:45:35,030 --> 02:45:33,120

kimbrough working with pesquet who was

2249

02:45:38,389 --> 02:45:35,040

to his right kimbrough was at the very

2250

02:45:42,469 --> 02:45:38,399

center of the irosa they were working to

2251

02:45:44,630 --> 02:45:42,479

soft capture the right side of the irosa

2252

02:45:50,150 --> 02:45:44,640

the left side secured to the mounting

2253

02:45:50,160 --> 02:46:00,309

back with you after handover

2254

02:46:03,030 --> 02:46:01,670

it's lighting up jenny and i'll make

2255

02:46:06,070 --> 02:46:03,040

sure you see my account but there's

2256

02:46:08,309 --> 02:46:06,080

still some mechanical interference

2257

02:46:09,910 --> 02:46:08,319

okay we copy we don't have ku band back

2258

02:46:11,670 --> 02:46:09,920

quite yet so we can't see your helmet

2259

02:46:13,830 --> 02:46:11,680

cam but from what you're telling me

2260

02:46:15,269 --> 02:46:13,840

there's still some interference you felt

2261

02:46:17,110 --> 02:46:15,279

a lot of friction

2262

02:46:18,710 --> 02:46:17,120

when you were

2263

02:46:21,190 --> 02:46:18,720

installing it back onto the mounting

2264

02:46:26,469 --> 02:46:21,200

bracket but you did get the alignment

2265

02:46:29,910 --> 02:46:27,990

okay and that's the alignment feature

2266

02:46:33,830 --> 02:46:29,920

just on your side tomorrow you could see

2267

02:46:38,230 --> 02:46:35,710

hopefully at the same

2268

02:46:39,990 --> 02:46:38,240

time i thought and i'm moving inside of

2269

02:46:42,230 --> 02:46:40,000

the other two especially at night yeah

2270

02:46:43,910 --> 02:46:42,240

the other two are still in oh yeah

2271

02:46:46,150 --> 02:46:43,920

last time i saw

2272

02:46:47,830 --> 02:46:46,160

uh i think they're still in

2273

02:46:50,230 --> 02:46:47,840

there's only a nice real line in the

2274

02:46:51,670 --> 02:46:50,240

middle of the of the slot

2275

02:46:52,630 --> 02:46:51,680

but it's still not going in it looks

2276

02:46:55,190 --> 02:46:52,640

like

2277

02:46:56,870 --> 02:46:55,200

i don't know what's blocking

2278

02:46:58,469 --> 02:46:56,880

um okay i can't see anything because i

2279

02:47:00,150 --> 02:46:58,479

cannot poke my head not between the

2280

02:47:02,950 --> 02:47:00,160

arosa and the panel with another enough

2281

02:47:07,590 --> 02:47:05,110

yeah i understand but you did get all

2282

02:47:11,190 --> 02:47:07,600

three alignment features lined up that's

2283

02:47:15,030 --> 02:47:13,030

it's lined up but uh

2284

02:47:16,630 --> 02:47:15,040

i'm going in tomorrow can i release this

2285

02:47:18,070 --> 02:47:16,640

right side you know

2286

02:47:36,070 --> 02:47:18,080

yeah okay

2287

02:47:41,429 --> 02:47:38,790

nice if i need to both of us be on me

2288

02:47:49,110 --> 02:47:41,439

searching and pull on it so we don't see

2289

02:47:49,120 --> 02:48:00,150

right through there yep

2290

02:48:05,510 --> 02:48:02,950

it's another stitch i got some pretty

2291

02:48:07,030 --> 02:48:05,520

good force on it now i moved over

2292

02:48:09,429 --> 02:48:07,040

yeah so

2293

02:48:11,830 --> 02:48:09,439

you can try but

2294

02:48:12,790 --> 02:48:11,840

that's why it moved there

2295

02:48:16,469 --> 02:48:12,800

yeah

2296

02:48:32,450 --> 02:48:16,479

anything okay

2297

02:48:35,030 --> 02:48:34,309

[Music]

2298

02:48:36,710 --> 02:48:35,040

yeah

2299

02:48:38,469 --> 02:48:36,720

that's great to hear so the alignment

2300

02:48:39,910 --> 02:48:38,479

features are engaged and you're checking

2301
02:48:43,110 --> 02:48:39,920
the right soft capture feature now

2302
02:48:43,120 --> 02:48:48,389
correct

2303
02:48:52,950 --> 02:48:50,309
yeah i think i'm in

2304
02:48:55,590 --> 02:48:52,960
the right uh self-defending feature is

2305
02:49:01,349 --> 02:48:58,710
copy the right i don't know

2306
02:49:02,710 --> 02:49:01,359
capture feature is in and the alignment

2307
02:49:04,870 --> 02:49:02,720
is good

2308
02:49:11,429 --> 02:49:04,880
that sounds like you guys were able to

2309
02:49:16,550 --> 02:49:13,590
an applause here in mission control

2310
02:49:18,790 --> 02:49:16,560
houston all of the mitigation tactics to

2311
02:49:21,110 --> 02:49:18,800
align the irosa with the mounting

2312
02:49:23,510 --> 02:49:21,120
bracket have worked the right side of

2313
02:49:32,710 --> 02:49:23,520

irosa is soft captured to the mounting

2314

02:49:36,469 --> 02:49:34,790

then you have eyes on all three of them

2315

02:49:38,469 --> 02:49:36,479

the alignment guys that all three of

2316

02:49:41,590 --> 02:49:38,479

them are nicely aligned all the way in

2317

02:49:51,030 --> 02:49:41,600

just for 70 seconds

2318

02:49:51,040 --> 02:49:59,429

this is my pdt

2319

02:50:04,790 --> 02:50:02,150

all right next steps are to have uh

2320

02:50:07,030 --> 02:50:04,800

shane remove the wire tie from the soft

2321

02:50:09,429 --> 02:50:07,040

capture feature that you uh you tied

2322

02:50:11,990 --> 02:50:09,439

down there and you can stow that wire

2323

02:50:13,830 --> 02:50:12,000

tie in your trash bag

2324

02:50:15,349 --> 02:50:13,840

pick up that adjustable equipment tether

2325

02:50:28,070 --> 02:50:15,359

and we'll deploy that soft capture

2326
02:50:33,070 --> 02:50:31,750
start driving the m35 and m36 in samia

2327
02:50:39,269 --> 02:50:33,080
with the

2328
02:50:39,279 --> 02:50:42,630
hey intima

2329
02:50:46,550 --> 02:50:44,790
uh i'm right here with the pgp in hand

2330
02:50:57,910 --> 02:50:46,560
standing by to hand me over to shane so

2331
02:50:57,920 --> 02:51:05,429
checking

2332
02:51:11,190 --> 02:51:06,790
i'm not watching your channel will be

2333
02:51:28,070 --> 02:51:11,200
ready in 30 seconds it's just in case

2334
02:51:31,030 --> 02:51:28,870
all right

2335
02:51:33,510 --> 02:51:31,040
i have uh i have next steps for you

2336
02:51:34,630 --> 02:51:33,520
we're kind of back on a more nominal

2337
02:51:36,309 --> 02:51:34,640
timeline so we're just getting

2338
02:51:38,070 --> 02:51:36,319

reconfigured here on the ground you guys

2339

02:51:39,429 --> 02:51:38,080

have done a great job to get us back on

2340

02:51:40,230 --> 02:51:39,439

track

2341

02:51:43,190 --> 02:51:40,240

um

2342

02:51:46,070 --> 02:51:43,200

after stowing that uh

2343

02:51:48,150 --> 02:51:46,080

that wire tie and adjustable shane

2344

02:51:49,429 --> 02:51:48,160

you'll be at the crewlock bag

2345

02:51:51,030 --> 02:51:49,439

and tomah

2346

02:51:53,590 --> 02:51:51,040

you will be

2347

02:51:55,910 --> 02:51:53,600

driving r7 and r8 which are the hinge

2348

02:51:56,630 --> 02:51:55,920

bolts so for that we're going to have

2349

02:51:59,429 --> 02:51:56,640

you

2350

02:52:02,150 --> 02:51:59,439

ingress the apfr in the center

2351
02:52:10,230 --> 02:52:05,990
of irosa so shane you can stream yeah

2352
02:52:19,670 --> 02:52:12,070
there's other stuff i gotta do that's my

2353
02:52:23,269 --> 02:52:21,349
inside you will want to jump again

2354
02:52:25,990 --> 02:52:23,279
whatever makes sense for you guys but

2355
02:52:27,349 --> 02:52:26,000
yeah we're just making sure i want to be

2356
02:52:29,110 --> 02:52:27,359
i want to be absolutely sure before i

2357
02:52:32,110 --> 02:52:29,120
give you guys the next steps so stand by

2358
02:52:32,120 --> 02:52:39,990
[Applause]

2359
02:52:44,790 --> 02:52:42,070
so it's limited to you if you were

2360
02:52:46,230 --> 02:52:44,800
directed to the guy still to the bag

2361
02:52:48,469 --> 02:52:46,240
or

2362
02:52:50,309 --> 02:52:48,479
why don't we just change that now yeah

2363
02:52:51,269 --> 02:52:50,319

great so

2364

02:52:55,940 --> 02:52:51,279

uh

2365

02:53:01,110 --> 02:52:58,870

[Music]

2366

02:53:03,429 --> 02:53:01,120

okay i have an answer for you guys uh

2367

02:53:05,910 --> 02:53:03,439

shane you can drive the hinge bolt so

2368

02:53:07,349 --> 02:53:05,920

again you'll be using tomas pgt for that

2369

02:53:09,349 --> 02:53:07,359

but since you're in position it's no

2370

02:53:12,710 --> 02:53:09,359

problem if you do that we'll just have

2371

02:53:14,710 --> 02:53:12,720

toma move to the crew lock bag to

2372

02:53:21,349 --> 02:53:14,720

retrieve the ams knob which you'll need

2373

02:53:21,359 --> 02:53:24,550

and change

2374

02:53:28,469 --> 02:53:26,230

and uh shane you

2375

02:53:31,349 --> 02:53:28,479

we think you'll be able to reach both of

2376

02:53:33,429 --> 02:53:31,359

the hinge bolts from the apfr but you

2377

02:53:35,269 --> 02:53:33,439

might not be able to reach the topmost

2378

02:53:38,630 --> 02:53:35,279

one just let us know if you have any

2379

02:53:42,710 --> 02:53:38,640

issues there the bottom one is uh our

2380

02:53:45,429 --> 02:53:44,230

okay so i'm good

2381

02:53:46,389 --> 02:53:45,439

yeah i'm gonna have to roll over a

2382

02:53:48,469 --> 02:53:46,399

little bit

2383

02:53:50,790 --> 02:53:48,479

i'll check it out in a minute

2384

02:53:53,269 --> 02:53:50,800

three from the back seam okay did the

2385

02:53:54,630 --> 02:53:53,279

other ride go back to the bag yes okay

2386

02:53:57,830 --> 02:53:54,640

dude

2387

02:54:00,070 --> 02:53:57,840

i got your pc right let me yeah that's

2388

02:54:02,460 --> 02:54:00,080

all good okay thanks tomorrow okay

2389

02:54:03,750 --> 02:54:02,470

except i need the bag now let me uh

2390

02:54:05,510 --> 02:54:03,760

[Applause]

2391

02:54:07,349 --> 02:54:05,520

see our a channel i think i can reach

2392

02:54:11,670 --> 02:54:07,359

our seven

2393

02:54:15,110 --> 02:54:13,190

um

2394

02:54:16,950 --> 02:54:15,120

you want to swap out they can swap this

2395

02:54:20,230 --> 02:54:16,960

okay yeah so do you think sorry about

2396

02:54:21,510 --> 02:54:20,240

that i'll call the atf how can i get r7

2397

02:54:23,670 --> 02:54:21,520

for sure

2398

02:54:24,630 --> 02:54:23,680

and uh well i'll have a better shot at

2399

02:54:26,630 --> 02:54:24,640

it

2400

02:54:34,070 --> 02:54:26,640

okay understood that's no problem we'll

2401

02:54:37,110 --> 02:54:35,670

might have to roll it one or two

2402

02:54:41,190 --> 02:54:37,120

tomorrow we can check it out let me get

2403

02:54:45,670 --> 02:54:43,429

and shane can i just confirm that that

2404

02:54:47,910 --> 02:54:45,680

middle soft capture feature is engaged

2405

02:54:52,389 --> 02:54:47,920

and you've uh stowed the wire tie and

2406

02:54:57,510 --> 02:54:54,150

i'm working on the aet right now it

2407

02:54:59,910 --> 02:54:57,520

isn't the cell capture is engaged

2408

02:55:01,670 --> 02:54:59,920

and the wire ties in my trash bag

2409

02:55:04,150 --> 02:55:01,680

copy great work

2410

02:55:13,349 --> 02:55:04,160

tomorrow you can ingress the apfr and

2411

02:55:17,269 --> 02:55:14,630

okay

2412

02:55:20,070 --> 02:55:17,279

so the tethers and wire ties that were

2413

02:55:21,750 --> 02:55:20,080

used to help to align irosa with the

2414

02:55:24,150 --> 02:55:21,760

mounting bracket

2415

02:55:25,830 --> 02:55:24,160

that mitigation strategy worked they're

2416

02:55:27,670 --> 02:55:25,840

gathering some of that equipment and

2417

02:55:30,550 --> 02:55:27,680

getting staged for

2418

02:55:32,550 --> 02:55:30,560

fully installing the solar array to the

2419

02:55:35,030 --> 02:55:32,560

mounting bracket there'll be a series of

2420

02:55:37,750 --> 02:55:35,040

driving some bolts so they'll each have

2421

02:55:39,830 --> 02:55:37,760

a pistol grip tool or a space drill

2422

02:55:43,030 --> 02:55:39,840

and they'll work to engage some of those

2423

02:55:44,950 --> 02:55:43,040

bolts on the mounting bracket

2424

02:55:48,070 --> 02:55:44,960

glove inspection hap check and gauntlet

2425

02:55:50,389 --> 02:55:48,080

check oh okay

2426

02:55:52,630 --> 02:55:50,399

okay get it

2427

02:55:55,510 --> 02:55:52,640

okay gloves look at a small smudge on

2428

02:55:57,110 --> 02:55:55,520

the right uh ring finger

2429

02:55:58,630 --> 02:55:57,120

um probably just from translation like

2430

02:55:59,429 --> 02:55:58,640

tommaso

2431

02:56:05,990 --> 02:55:59,439

and

2432

02:56:08,630 --> 02:56:06,000

we copy good checks thanks shane

2433

02:56:19,600 --> 02:56:08,640

you can retrieve the ams knob with a six

2434

02:56:26,950 --> 02:56:24,550

[Music]

2435

02:56:29,750 --> 02:56:26,960

yeah

2436

02:56:32,469 --> 02:56:29,760

we'll have you ready you're

2437

02:56:34,710 --> 02:56:32,479

ready your pgt and then we'll see if you

2438

02:56:37,269 --> 02:56:34,720

can reach uh on a roll pedal finisher

2439

02:56:38,790 --> 02:56:37,279

with your footer is it not so true

2440

02:56:40,469 --> 02:56:38,800

it's just too complicated i'll do it

2441

02:56:43,110 --> 02:56:40,479

i'll pop the food out

2442

02:56:49,030 --> 02:56:44,630

i'll be able to

2443

02:56:49,040 --> 02:56:54,230

anyways

2444

02:56:57,590 --> 02:56:55,830

okay i'm going to depress the pedal are

2445

02:57:00,389 --> 02:56:57,600

you ready yeah ready

2446

02:57:02,950 --> 02:57:00,399

here we go okay

2447

02:57:05,349 --> 02:57:02,960

we're going anywhere

2448

02:57:10,630 --> 02:57:07,110

i'll try to do i'll try to pull the

2449

02:57:12,710 --> 02:57:10,640

shoot it's fully depressed is it yeah

2450

02:57:14,550 --> 02:57:12,720

it's not moving

2451
02:57:17,349 --> 02:57:14,560
oh i think it's not i think we cannot

2452
02:57:19,429 --> 02:57:17,359
because the pitch is 90 degrees ah okay

2453
02:57:22,469 --> 02:57:19,439
i think i have to hit like this never

2454
02:57:26,630 --> 02:57:22,479
mind sorry about that

2455
02:57:31,670 --> 02:57:27,910
okay

2456
02:57:37,830 --> 02:57:34,150
and jenny i'm ready for setting if you

2457
02:57:43,190 --> 02:57:37,840
have spanish for me alpha one clockwise

2458
02:57:57,349 --> 02:57:45,830
small one alpha one

2459
02:58:16,950 --> 02:58:01,349
you'll be driving r7 and r8 13 turns

2460
02:58:22,950 --> 02:58:19,670
a firm and we're looking for 13 turns

2461
02:58:30,070 --> 02:58:27,990
13 turns on r7 and r8

2462
02:58:33,269 --> 02:58:30,080
good read back

2463
02:58:34,870 --> 02:58:33,279

shane you can retrieve the ams knob and

2464

02:58:36,230 --> 02:58:34,880

following that we'll still have you at

2465

02:58:38,550 --> 02:58:36,240

the crew lock bag if you want to get

2466

02:58:55,990 --> 02:58:38,560

ahead your next step is to retrieve the

2467

02:58:59,830 --> 02:58:57,670

you're seeing toma pesque using the

2468

02:59:03,110 --> 02:58:59,840

pistol grip tool to drive some of the

2469

02:59:04,630 --> 02:59:03,120

bolts necessary to secure the uh

2470

02:59:06,550 --> 02:59:04,640

solar array

2471

02:59:07,750 --> 02:59:06,560

in this configuration to the mounting

2472

02:59:09,269 --> 02:59:07,760

bracket

2473

02:59:11,269 --> 02:59:09,279

meanwhile kimbrough is retrieving

2474

02:59:13,750 --> 02:59:11,279

something called an ams knob this will

2475

02:59:16,469 --> 02:59:13,760

be used after the pistol grip tool

2476

02:59:40,950 --> 02:59:16,479

to finger tighten or hand tighten

2477

02:59:45,190 --> 02:59:43,429

sorry i gave it more times i gave it 17

2478

02:59:46,150 --> 02:59:45,200

17 times because i couldn't see

2479

02:59:48,550 --> 02:59:46,160

anything

2480

02:59:51,590 --> 02:59:48,560

at the very end of my uh

2481

02:59:52,790 --> 02:59:51,600

my reach uh but i gave it setting 17

2482

02:59:53,990 --> 02:59:52,800

turns i have

2483

02:59:57,670 --> 02:59:54,000

green lights

2484

03:00:00,309 --> 02:59:57,680

and good torque of 2.4

2485

03:00:02,790 --> 03:00:00,319

copy green light r7

2486

03:00:08,950 --> 03:00:02,800

2.4 on the torque and 17 turns we're

2487

03:00:08,960 --> 03:00:18,389

don't make them do here

2488

03:00:22,389 --> 03:00:20,790

i don't get the ams knob on r7 from the

2489

03:00:31,429 --> 03:00:22,399

airport

2490

03:00:31,439 --> 03:00:51,429

okay i can use this

2491

03:00:51,439 --> 03:00:56,790

you won't already be driven

2492

03:01:02,150 --> 03:00:59,750

yep you can start on r8 tomah remember

2493

03:01:03,349 --> 03:01:02,160

13 turns only understands that the the

2494

03:01:05,030 --> 03:01:03,359

other bolt was a bit high it was

2495

03:01:08,630 --> 03:01:05,040

difficult to see we're going to have to

2496

03:01:11,990 --> 03:01:08,640

have you back out the other bolt r7 to

2497

03:01:15,590 --> 03:01:14,710

even with the group

2498

03:01:17,110 --> 03:01:15,600

okay

2499

03:01:19,670 --> 03:01:17,120

um

2500

03:01:21,510 --> 03:01:19,680

again so here you are to get to all

2501
03:01:23,269 --> 03:01:21,520
right with the ams tool in any case

2502
03:01:26,389 --> 03:01:23,279
after you climb on the other side i

2503
03:01:28,710 --> 03:01:26,399
cannot do it from the apsl

2504
03:01:30,950 --> 03:01:28,720
the the end bolts are not driven copy we

2505
03:01:32,630 --> 03:01:30,960
have some body position options that

2506
03:01:36,309 --> 03:01:32,640
will help you reach that outside of the

2507
03:01:41,990 --> 03:01:40,150
so 13 turns on r8 but no talk and no

2508
03:01:43,349 --> 03:01:42,000
very light

2509
03:01:47,670 --> 03:01:43,359
copy

2510
03:01:47,680 --> 03:01:52,550
you config see okay

2511
03:01:56,389 --> 03:01:54,230
now let me uh what are your settings for

2512
03:01:58,550 --> 03:01:56,399
packing out r7g

2513
03:02:00,870 --> 03:01:58,560

checking

2514

03:02:02,790 --> 03:02:00,880

so there are two bolts to secure the

2515

03:02:04,309 --> 03:02:02,800

hinges right now you're getting a helmet

2516

03:02:06,550 --> 03:02:04,319

camera view from

2517

03:02:08,630 --> 03:02:06,560

tomah pesquet's helmet camera he's

2518

03:02:10,309 --> 03:02:08,640

looking at the center of the irosa and

2519

03:02:12,389 --> 03:02:10,319

these bolts will secure the hinges that

2520

03:02:13,910 --> 03:02:12,399

help to unfold it

2521

03:02:15,990 --> 03:02:13,920

they need to be hand tightened so

2522

03:02:18,070 --> 03:02:16,000

they're only going to do 13 turns and

2523

03:02:20,630 --> 03:02:18,080

then use another tool called the ams

2524

03:02:39,510 --> 03:02:20,640

knob to hand tighten the remaining

2525

03:02:39,520 --> 03:02:44,950

all right

2526
03:02:50,550 --> 03:02:47,190
you can store your pgd and receive the

2527
03:02:51,590 --> 03:02:50,560
ams knob from ev2 you're going to be

2528
03:02:54,870 --> 03:02:51,600
torquing

2529
03:02:56,630 --> 03:02:54,880
both of those bolts to just snug so

2530
03:02:57,670 --> 03:02:56,640
around two turns

2531
03:02:58,950 --> 03:02:57,680
each

2532
03:03:00,950 --> 03:02:58,960
understand

2533
03:03:02,950 --> 03:03:00,960
you might have some constraints reaching

2534
03:03:04,309 --> 03:03:02,960
the uppermost bolt we'll talk about that

2535
03:03:07,590 --> 03:03:04,319
when you get there but you can start on

2536
03:03:07,600 --> 03:03:10,950
okay

2537
03:03:17,030 --> 03:03:13,510
it doesn't rust at that tools yet

2538
03:03:18,790 --> 03:03:17,040

you turn by hand here she turns yep

2539

03:03:22,790 --> 03:03:18,800

it's turned by hand it's not a ratchet

2540

03:03:22,800 --> 03:03:32,389

yep

2541

03:03:37,750 --> 03:03:35,110

from this view you see pesquet has that

2542

03:03:39,990 --> 03:03:37,760

ams knob it's a hand tightening tool

2543

03:03:42,630 --> 03:03:40,000

just a delicate two turns to secure the

2544

03:03:52,870 --> 03:03:42,640

hinge bolts that help to unfold the

2545

03:03:56,950 --> 03:03:54,790

i think it needs a lot more than two

2546

03:03:58,950 --> 03:03:56,960

turns to be snug jenny so you don't need

2547

03:04:01,030 --> 03:03:58,960

to keep going with the rest of the ams

2548

03:04:04,870 --> 03:04:01,040

tool

2549

03:04:04,880 --> 03:04:19,510

okay

2550

03:04:19,520 --> 03:04:35,429

foreign

2551
03:04:40,790 --> 03:04:38,550
and tama um like we said that's too snug

2552
03:04:48,830 --> 03:04:40,800
we had a turn estimate of two turns but

2553
03:04:53,110 --> 03:04:51,590
out given it like five or six stones and

2554
03:04:58,469 --> 03:04:53,120
i still see

2555
03:04:58,479 --> 03:05:09,910
copy

2556
03:05:09,920 --> 03:05:15,269
okay i'm snorting off and tight

2557
03:05:20,790 --> 03:05:19,110
copy the bolt is snug so done for r8

2558
03:05:22,710 --> 03:05:20,800
okay and jenny my question i guess is

2559
03:05:24,710 --> 03:05:22,720
can i translate on the irosa even though

2560
03:05:30,830 --> 03:05:24,720
the end bulbs are not

2561
03:05:34,950 --> 03:05:32,630
2r7

2562
03:05:37,269 --> 03:05:34,960
you can use the root beam just make sure

2563
03:05:39,030 --> 03:05:37,279

that you uh don't touch the blankets as

2564

03:05:42,950 --> 03:05:39,040

always but the root beam is fair game

2565

03:05:42,960 --> 03:05:53,750

yep

2566

03:05:53,760 --> 03:06:02,550

nice and easy

2567

03:06:07,990 --> 03:06:04,630

with the first of two hinge bolts

2568

03:06:09,910 --> 03:06:08,000

tightened to be uh just a little snug

2569

03:06:12,389 --> 03:06:09,920

pesky now moving into a position to

2570

03:06:32,309 --> 03:06:12,399

allow him to reach that upper bolt and

2571

03:06:32,319 --> 03:06:54,230

here we go

2572

03:06:59,349 --> 03:06:56,230

and shane if you haven't done so yet you

2573

03:07:01,429 --> 03:06:59,359

can prep the cap keeper from the crew

2574

03:07:02,469 --> 03:07:01,439

lock bag we'll be transferring that to

2575

03:07:04,550 --> 03:07:02,479

tomah

2576

03:07:08,309 --> 03:07:04,560

and using it to remove the caps from the

2577

03:07:12,230 --> 03:07:09,990

it's right there in front of them ready

2578

03:07:15,990 --> 03:07:12,240

to go back up here

2579

03:07:18,230 --> 03:07:16,950

um

2580

03:07:20,790 --> 03:07:18,240

hey

2581

03:07:22,790 --> 03:07:20,800

now what cup keeper that keeper right

2582

03:07:32,389 --> 03:07:22,800

here tomorrow oh okay we can just leave

2583

03:07:37,190 --> 03:07:35,750

we copy that r7 is snug

2584

03:07:38,630 --> 03:07:37,200

and that's right you'll be removing the

2585

03:07:40,469 --> 03:07:38,640

cap so you can keep the cap keepers

2586

03:07:45,190 --> 03:07:40,479

stowed to the clear lock bag or ready to

2587

03:07:45,200 --> 03:07:48,070

this works well

2588

03:07:50,830 --> 03:07:49,750

making progress

2589

03:07:53,190 --> 03:07:50,840

awesome

2590

03:08:25,670 --> 03:07:53,200

improvements matters

2591

03:08:25,680 --> 03:08:43,269

yes

2592

03:08:43,279 --> 03:08:51,110

foreign

2593

03:08:51,120 --> 03:08:54,469

three cats

2594

03:08:54,479 --> 03:09:07,990

copy

2595

03:09:08,000 --> 03:09:23,750

foreign

2596

03:09:27,349 --> 03:09:25,510

we're talking next steps it's likely

2597

03:09:33,429 --> 03:09:27,359

going to be m bolts i'll have words for

2598

03:09:42,469 --> 03:09:36,309

just put away tomorrow now

2599

03:09:42,479 --> 03:09:47,510

i'm getting

2600

03:09:47,520 --> 03:10:03,269

foreign

2601
03:10:07,429 --> 03:10:05,349
all right big picture for you guys

2602
03:10:09,429 --> 03:10:07,439
considering the time we have left in

2603
03:10:11,910 --> 03:10:09,439
this eclipse it's only about two minutes

2604
03:10:13,910 --> 03:10:11,920
so we're going to move on to driving m

2605
03:10:16,309 --> 03:10:13,920
bolts it's crew preference who drives

2606
03:10:17,830 --> 03:10:16,319
the m bolts again we just have one pgt

2607
03:10:21,750 --> 03:10:17,840
with the correct socket which is the

2608
03:10:23,590 --> 03:10:21,760
green pgt or shane's ptt

2609
03:10:25,269 --> 03:10:23,600
we are one hour away from the next

2610
03:10:26,790 --> 03:10:25,279
working eclipse where we will be able to

2611
03:10:29,830 --> 03:10:26,800
do the

2612
03:10:32,229 --> 03:10:29,840
full cable config at the legacy panel

2613
03:10:33,590 --> 03:10:32,239

so the other crew member whoever is not

2614

03:10:36,870 --> 03:10:33,600

driving bolts

2615

03:10:37,670 --> 03:10:36,880

will head outboard and disconnect

2616

03:10:47,510 --> 03:10:37,680

the

2617

03:10:47,520 --> 03:10:51,510

okay that sounds good

2618

03:10:55,349 --> 03:10:53,750

let me drive first drive these edu

2619

03:10:56,870 --> 03:10:55,359

connectors and the emerald swap nothing

2620

03:10:58,870 --> 03:10:56,880

makes sense okay thanks for getting

2621

03:11:02,950 --> 03:10:58,880

through your phone yeah i think it will

2622

03:11:04,870 --> 03:11:02,960

yeah let me take my local okay

2623

03:11:06,830 --> 03:11:04,880

out on your way but jenny the point i

2624

03:11:08,870 --> 03:11:06,840

don't know if you hurry is that

2625

03:11:10,389 --> 03:11:08,880

uh we'll drop the bolts on each side

2626
03:11:13,670 --> 03:11:10,399
while i'm cleaning up the connectors on

2627
03:11:17,750 --> 03:11:13,680
my side and then we swap rolls

2628
03:11:21,830 --> 03:11:18,950
and um

2629
03:11:24,070 --> 03:11:21,840
another enough step is also to retrieve

2630
03:11:26,309 --> 03:11:24,080
those uh adjustables at some point not

2631
03:11:28,070 --> 03:11:26,319
now so nothing we can do as well yeah

2632
03:11:29,990 --> 03:11:28,080
that's exactly what we're talking here

2633
03:11:31,510 --> 03:11:30,000
we might have you uh take a look at

2634
03:11:33,030 --> 03:11:31,520
cleaning up those adjustables as well

2635
03:11:35,510 --> 03:11:33,040
but i'll have a confirmation for you

2636
03:11:35,520 --> 03:11:40,550
okay

2637
03:11:45,349 --> 03:11:42,710
two hours into today's spacewalk the

2638
03:11:47,349 --> 03:11:45,359

spacewalkers have their next steps there

2639

03:11:50,229 --> 03:11:47,359

are four bolts that need to be driven on

2640

03:11:52,070 --> 03:11:50,239

the right side of the solar array to

2641

03:11:53,269 --> 03:11:52,080

secure it in place to the mounting

2642

03:11:54,870 --> 03:11:53,279

bracket

2643

03:11:56,389 --> 03:11:54,880

in the meantime

2644

03:11:57,910 --> 03:11:56,399

the other crew member will work on

2645

03:11:59,349 --> 03:11:57,920

routing some cables and cleaning them

2646

03:12:00,950 --> 03:11:59,359

out getting them ready for the

2647

03:12:02,950 --> 03:12:00,960

connections

2648

03:12:04,950 --> 03:12:02,960

we're about to enter into an orbital

2649

03:12:07,830 --> 03:12:04,960

sunrise which means the sun will be

2650

03:12:09,910 --> 03:12:07,840

shining on their solar arrays and the

2651
03:12:11,990 --> 03:12:09,920
arrays will be producing power

2652
03:12:13,830 --> 03:12:12,000
some of the next steps after bolting the

2653
03:12:16,389 --> 03:12:13,840
solar array to the mounting bracket

2654
03:12:18,710 --> 03:12:16,399
include connecting some of the cables we

2655
03:12:21,190 --> 03:12:18,720
need to be in an eclipse or in an

2656
03:12:22,950 --> 03:12:21,200
orbital night time in order to start

2657
03:12:24,630 --> 03:12:22,960
that work to reduce the electrical

2658
03:12:26,229 --> 03:12:24,640
current flowing through

2659
03:12:27,030 --> 03:12:26,239
the solar arrays

2660
03:12:28,070 --> 03:12:27,040
so

2661
03:12:49,510 --> 03:12:28,080
the

2662
03:12:55,429 --> 03:12:51,190
all right jimmy i get my pgt set up

2663
03:13:05,429 --> 03:12:58,710

copy shane your settings are bravo five

2664

03:13:10,790 --> 03:13:08,950

level five clockwise two sets

2665

03:13:13,110 --> 03:13:10,800

and we do have a preference that you

2666

03:13:14,469 --> 03:13:13,120

start driving bolts in the center of the

2667

03:13:17,110 --> 03:13:14,479

mounting bracket

2668

03:13:18,790 --> 03:13:17,120

so we have written starting with m35 if

2669

03:13:23,670 --> 03:13:18,800

able but understanding you're splitting

2670

03:13:23,680 --> 03:13:34,870

there's 35 the most on the right side

2671

03:13:39,910 --> 03:13:37,510

we're looking for 11 to 13 turns it'll

2672

03:13:42,070 --> 03:13:39,920

be to hard stop and the black line will

2673

03:13:43,990 --> 03:13:42,080

be flush

2674

03:13:46,229 --> 03:13:44,000

two

2675

03:13:48,309 --> 03:13:46,239

three

2676
03:13:52,870 --> 03:13:48,319
four

2677
03:14:05,640 --> 03:13:54,469
my second lead

2678
03:14:05,650 --> 03:14:09,110
[Music]

2679
03:14:14,309 --> 03:14:10,950
13.

2680
03:14:14,319 --> 03:14:20,229
any green light there jenny

2681
03:14:20,239 --> 03:14:31,350
yeah we want these driven to torque

2682
03:14:36,550 --> 03:14:33,990
[Music]

2683
03:14:39,190 --> 03:14:38,150
all right thanks tomorrow thank you

2684
03:14:41,349 --> 03:14:39,200
always

2685
03:14:42,870 --> 03:14:41,359
do my work bill

2686
03:14:45,670 --> 03:14:42,880
connectors

2687
03:14:46,870 --> 03:14:45,680
all right brother five going for x34

2688
03:14:58,710 --> 03:14:46,880

jenny

2689

03:14:58,720 --> 03:15:08,309

okay both disconnected on my side johnny

2690

03:15:25,590 --> 03:15:11,349

and go back shane when able can you

2691

03:15:31,349 --> 03:15:27,830

copy 22 on the torque and 13 turns thank

2692

03:15:36,309 --> 03:15:32,830

okay for

2693

03:15:38,710 --> 03:15:36,319

m3422 and 12.87 turns

2694

03:15:41,429 --> 03:15:38,720

green light

2695

03:15:46,469 --> 03:15:41,439

copy 22 on the torque 12.87 turns green

2696

03:15:46,479 --> 03:16:27,750

recline flush happy

2697

03:16:31,349 --> 03:16:29,349

shane it looks like your helmet might be

2698

03:16:33,030 --> 03:16:31,359

touching the blankets just a reminder to

2699

03:16:37,349 --> 03:16:33,040

back off if we have trouble reaching

2700

03:16:44,389 --> 03:16:40,710

okay on our m32

2701

03:16:47,990 --> 03:16:44,399

i'm 22 on the torque 13.47

2702

03:16:57,990 --> 03:16:52,070

22 on the torque 13.47 turns green light

2703

03:17:02,870 --> 03:17:00,070

and black line is flush

2704

03:17:06,070 --> 03:17:02,880

with my helmet clear if i'm down here um

2705

03:17:07,670 --> 03:17:06,080

yeah i know that uh that um rc extension

2706

03:17:09,670 --> 03:17:07,680

that's also really cool that youtube

2707

03:17:11,030 --> 03:17:09,680

divisor yeah i see that yeah you see

2708

03:17:13,030 --> 03:17:11,040

that

2709

03:17:15,429 --> 03:17:13,040

uh as long as you're clear of this

2710

03:17:16,469 --> 03:17:15,439

and you don't grow up

2711

03:17:45,590 --> 03:17:16,479

thank you

2712

03:17:49,590 --> 03:17:46,950

you're getting a view from the helmet

2713

03:17:51,510 --> 03:17:49,600

camera of tomah pesquet looking at shane

2714

03:17:53,910 --> 03:17:51,520

kimbrough he's in the suit with the

2715

03:17:55,910 --> 03:17:53,920

white uh stripes where the unmarked suit

2716

03:17:59,750 --> 03:17:55,920

driving the bolts on the left side

2717

03:18:02,790 --> 03:17:59,760

making sure they're secure over there

2718

03:18:05,510 --> 03:18:02,800

22 12.87 turns

2719

03:18:08,309 --> 03:18:05,520

green lights and black line flush

2720

03:18:11,510 --> 03:18:08,319

copy black line flush green light 12.87

2721

03:18:13,590 --> 03:18:11,520

turns and 22 on the torque for m33

2722

03:18:15,030 --> 03:18:13,600

ready for m31 and we're still showing

2723

03:18:17,269 --> 03:18:15,040

your helmet pretty close to those

2724

03:18:20,469 --> 03:18:17,279

blankets so we'll have you egress the

2725

03:18:22,309 --> 03:18:20,479

apfr for the final bolt

2726

03:18:47,590 --> 03:18:22,319

obviously might even be more comfortable

2727

03:18:52,229 --> 03:18:50,150

kimbrough has three of the bolts on the

2728

03:18:53,910 --> 03:18:52,239

left side driven he's going to get out

2729

03:18:56,870 --> 03:18:53,920

of the foot restraint

2730

03:19:04,389 --> 03:18:56,880

to drive that fourth bolt

2731

03:19:04,399 --> 03:19:28,229

uh

2732

03:19:33,670 --> 03:19:31,429

i have that data for you we're at pet of

2733

03:19:37,349 --> 03:19:33,680

two hours and seven minutes

2734

03:19:39,910 --> 03:19:37,359

ev-1 medox seven hours and we are 53

2735

03:19:47,110 --> 03:19:39,920

minutes until our working eclipse for

2736

03:20:00,790 --> 03:19:49,030

yeah you guys are doing fantastic plenty

2737

03:20:05,990 --> 03:20:03,429

i'm just not engaging tomorrow

2738

03:20:07,910 --> 03:20:06,000

m31 yeah

2739

03:20:18,389 --> 03:20:07,920

on it nice little two things on the

2740

03:20:36,229 --> 03:20:20,150

shane if it's difficult to engage you

2741

03:20:36,239 --> 03:20:53,670

okay

2742

03:20:58,790 --> 03:20:55,990

from the helmet camera of pesquet just

2743

03:21:00,389 --> 03:20:58,800

hand tightening some of the bolts

2744

03:21:02,150 --> 03:21:00,399

while kimbrough gets into position to

2745

03:21:04,389 --> 03:21:02,160

drive that fourth and final bolt on the

2746

03:21:06,630 --> 03:21:04,399

left side they're counting down to an

2747

03:21:08,950 --> 03:21:06,640

eclipse or an orbital night time where

2748

03:21:11,030 --> 03:21:08,960

no power will be drawn by the station

2749

03:21:13,750 --> 03:21:11,040

solar arrays and they can make

2750

03:21:17,190 --> 03:21:13,760

the electrical connections necessary

2751
03:21:19,030 --> 03:21:17,200
to augment the power that irosa the

2752
03:21:20,790 --> 03:21:19,040
solar array they're currently working on

2753
03:21:21,910 --> 03:21:20,800
will be providing to the 2b power

2754
03:21:24,150 --> 03:21:21,920
channel

2755
03:21:25,269 --> 03:21:24,160
that work needs to be done in an orbital

2756
03:21:26,790 --> 03:21:25,279
night time

2757
03:21:28,790 --> 03:21:26,800
in the meantime we're handing over some

2758
03:21:31,510 --> 03:21:28,800
of our visual communications from the

2759
03:21:33,750 --> 03:21:31,520
international space station uh those

2760
03:21:36,630 --> 03:21:33,760
video that video coming from tdrs or

2761
03:21:38,550 --> 03:21:36,640
tracking and data relay satellites we're

2762
03:21:39,910 --> 03:21:38,560
just handing over between the satellites

2763
03:21:47,190 --> 03:21:39,920

now should be regaining those views

2764

03:21:47,200 --> 03:21:53,429

and a half turns 22 on the tour nice

2765

03:21:53,439 --> 03:21:58,309

black line flush

2766

03:22:02,870 --> 03:22:00,790

copy i just caught that word

2767

03:22:06,550 --> 03:22:02,880

back with you after a handover so that

2768

03:22:14,630 --> 03:22:06,560

was m31 22 on the torque 13 and a half

2769

03:22:18,229 --> 03:22:15,750

come on

2770

03:22:20,950 --> 03:22:18,239

i want to stay here with you

2771

03:22:23,590 --> 03:22:20,960

uh it looks like once she

2772

03:22:24,870 --> 03:22:23,600

swap over to a rat probably might not

2773

03:22:26,389 --> 03:22:24,880

reach if she's just grabbing their

2774

03:22:28,150 --> 03:22:26,399

cables

2775

03:22:29,750 --> 03:22:28,160

okay

2776

03:22:30,870 --> 03:22:29,760

oh i can swap it

2777

03:22:36,389 --> 03:22:30,880

right

2778

03:22:41,349 --> 03:22:39,110

i'm ready for m36

2779

03:22:44,550 --> 03:22:41,359

i got uh bravo

2780

03:22:48,389 --> 03:22:44,560

five clockwise two good settings you go

2781

03:22:51,190 --> 03:22:49,670

getting video back from the

2782

03:22:53,110 --> 03:22:51,200

international space station shane

2783

03:22:54,389 --> 03:22:53,120

kimbrough completing his four bolts on

2784

03:22:57,910 --> 03:22:54,399

the left side

2785

03:22:59,670 --> 03:22:57,920

uh tomah pesquet has one bolt driven on

2786

03:23:01,670 --> 03:22:59,680

the right side he hand tightened a

2787

03:23:03,830 --> 03:23:01,680

couple of them now with the pistol grip

2788

03:23:05,830 --> 03:23:03,840

tool or the space drill in hand he'll

2789

03:23:07,990 --> 03:23:05,840

complete the installation of the three

2790

03:23:13,510 --> 03:23:08,000

remaining bolts on the right side of the

2791

03:23:16,630 --> 03:23:14,389

i got

2792

03:23:20,630 --> 03:23:16,640

13 turns

2793

03:23:22,710 --> 03:23:20,640

total of 22.0 and green light

2794

03:23:25,590 --> 03:23:22,720

copy m36 torque

2795

03:23:30,740 --> 03:23:25,600

of 22 13 turns green light and check

2796

03:23:30,750 --> 03:23:40,389

[Music]

2797

03:23:40,399 --> 03:23:56,710

shane

2798

03:24:00,950 --> 03:23:58,150

just getting the final check for you

2799

03:24:07,750 --> 03:24:04,750

okay 11 turns on the n37

2800

03:24:10,550 --> 03:24:07,760

22.2 and green light

2801
03:24:17,750 --> 03:24:10,560
copy 11 turns 22.2 green light and i'll

2802
03:24:22,710 --> 03:24:20,150
no problem you can move on to m38 and

2803
03:24:44,150 --> 03:24:22,720
shane you can clean up your adjustable

2804
03:24:44,160 --> 03:25:03,670
huh

2805
03:25:03,680 --> 03:25:09,349
m38j

2806
03:25:14,950 --> 03:25:11,990
copy green light 22 on the torque

2807
03:25:19,510 --> 03:25:14,960
and that was 11.8 turns check black

2808
03:25:33,670 --> 03:25:26,550
10.4 turns

2809
03:25:37,429 --> 03:25:33,680
on m38 so that's the final uh m bolt

2810
03:25:40,070 --> 03:25:37,439
driven well done you two you can

2811
03:25:41,830 --> 03:25:40,080
either temp stow shane's ptt or give it

2812
03:25:43,349 --> 03:25:41,840
back to him

2813
03:25:45,190 --> 03:25:43,359

tomorrow you're going to be cleaning up

2814

03:25:50,010 --> 03:25:45,200

your adjustables also on the outboard

2815

03:25:50,020 --> 03:25:56,229

[Music]

2816

03:26:00,070 --> 03:25:58,469

got it thank you

2817

03:26:01,269 --> 03:26:00,080

i mean i have two adjustables that i

2818

03:26:02,790 --> 03:26:01,279

cleaned up

2819

03:26:10,870 --> 03:26:02,800

yeah

2820

03:26:16,150 --> 03:26:13,269

shane once you've stowed your pgt we'll

2821

03:26:18,790 --> 03:26:16,160

have you start by connecting the nzgls

2822

03:26:28,790 --> 03:26:18,800

on the inboard side by rosa j1 through

2823

03:26:28,800 --> 03:26:32,630

coffee jimmy

2824

03:26:37,830 --> 03:26:35,349

with all eight bolts securing the uh

2825

03:26:40,630 --> 03:26:37,840

irosa to the mounting bracket

2826

03:26:42,469 --> 03:26:40,640

the astronauts are now uh

2827

03:26:44,630 --> 03:26:42,479

doing some cleanup steps using some of

2828

03:26:46,790 --> 03:26:44,640

the adjustable tethers that were used to

2829

03:26:48,150 --> 03:26:46,800

help with the alignment of the irosa to

2830

03:26:49,269 --> 03:26:48,160

the mounting bracket they'll clean up

2831

03:26:51,349 --> 03:26:49,279

some of those

2832

03:26:53,429 --> 03:26:51,359

there are a few cables that they're able

2833

03:26:55,590 --> 03:26:53,439

to connect ahead of the eclipse or the

2834

03:26:58,630 --> 03:26:55,600

orbital nighttime so they'll get into

2835

03:27:00,389 --> 03:26:58,640

those tasks get a jump start and then

2836

03:27:02,389 --> 03:27:00,399

once the station

2837

03:27:04,790 --> 03:27:02,399

uh goes into an orbital night time and

2838

03:27:06,469 --> 03:27:04,800

the solar arrays the legacy solar arrays

2839

03:27:08,229 --> 03:27:06,479

are no longer drawing power they'll be

2840

03:27:11,269 --> 03:27:08,239

able to make some of the electrical

2841

03:27:13,190 --> 03:27:11,279

connections that are necessary uh during

2842

03:27:15,510 --> 03:27:13,200

the eclipse it has to happen during an

2843

03:27:17,429 --> 03:27:15,520

orbital night time everything on track

2844

03:27:18,950 --> 03:27:17,439

so far to meet that deadline will

2845

03:27:29,110 --> 03:27:18,960

they'll be able to make the the

2846

03:27:33,510 --> 03:27:31,349

okay jimmy i'm ready uh i think i have

2847

03:27:38,309 --> 03:27:33,520

p1 here

2848

03:27:43,830 --> 03:27:40,710

and no saw it no good trends good emi

2849

03:27:48,469 --> 03:27:43,840

fan those eyes look clear

2850

03:27:53,750 --> 03:27:50,229

my two adjustables are on my new

2851
03:27:57,830 --> 03:27:55,670
that sounds good

2852
03:27:59,830 --> 03:27:57,840
if you're not conflicted with shane we

2853
03:28:04,070 --> 03:27:59,840
understand the enzo gl workspace is

2854
03:28:05,750 --> 03:28:04,080
tight you can also connect the nzgl's

2855
03:28:07,590 --> 03:28:05,760
three and four

2856
03:28:09,349 --> 03:28:07,600
but it might just be a one crew member

2857
03:28:14,070 --> 03:28:09,359
job in that case i'll have words on your

2858
03:28:21,030 --> 03:28:17,269
hey jenny p1 has made it to j1

2859
03:28:26,870 --> 03:28:21,040
and we're blocked over center

2860
03:28:30,630 --> 03:28:28,960
i can give you those checks for me

2861
03:28:31,750 --> 03:28:30,640
[Applause]

2862
03:28:34,870 --> 03:28:31,760
too now

2863
03:28:36,790 --> 03:28:34,880

no five no bench pins getting in my van

2864

03:28:40,309 --> 03:28:36,800

besides look clear

2865

03:28:41,830 --> 03:28:40,319

good checks on p2j2 and to my copy i'll

2866

03:28:44,950 --> 03:28:41,840

be taking checks from you for three and

2867

03:28:44,960 --> 03:28:47,590

okay

2868

03:29:03,990 --> 03:28:49,750

four j4

2869

03:29:10,229 --> 03:29:07,190

the jp show

2870

03:29:11,990 --> 03:29:10,239

copy p2 to j2 mated check lever over

2871

03:29:15,349 --> 03:29:12,000

center and i copy good checks on three

2872

03:29:18,790 --> 03:29:16,790

over center

2873

03:29:25,590 --> 03:29:18,800

are you going for it yeah let me get

2874

03:29:29,750 --> 03:29:27,510

all right i'm clear tomorrow okay i'm

2875

03:29:33,990 --> 03:29:29,760

moving in and jenny i'm uh

2876
03:29:50,550 --> 03:29:34,000
ready to connect p4 to k4 if you concur

2877
03:29:55,429 --> 03:29:53,269
okay p4 is connected to j4

2878
03:30:23,510 --> 03:29:55,439
never over center

2879
03:30:31,670 --> 03:30:27,670
p3 to gt never make it oversight

2880
03:30:33,750 --> 03:30:31,680
copy p3 and j3 made it over center

2881
03:30:35,910 --> 03:30:33,760
all right well done all the nzgl

2882
03:30:38,309 --> 03:30:35,920
connectors are mated i have a caution

2883
03:30:40,630 --> 03:30:38,319
for you avoid contact with the cables

2884
03:30:42,309 --> 03:30:40,640
when they are attached to irosa

2885
03:30:44,070 --> 03:30:42,319
you guys have gotten yourself in a great

2886
03:30:46,870 --> 03:30:44,080
config ahead of the working eclipse

2887
03:30:49,030 --> 03:30:46,880
which is still 42 minutes away so that

2888
03:30:50,630 --> 03:30:49,040

means we are going to send you to some

2889

03:30:52,150 --> 03:30:50,640

cleanup steps

2890

03:30:53,750 --> 03:30:52,160

until we have that working eclipse and

2891

03:30:54,870 --> 03:30:53,760

we can move to the outboard cable

2892

03:30:59,560 --> 03:30:54,880

connection

2893

03:31:05,030 --> 03:31:03,269

[Music]

2894

03:31:08,710 --> 03:31:05,040

you can release your fair lead and

2895

03:31:11,030 --> 03:31:08,720

relocate your apfr from the original eva

2896

03:31:16,309 --> 03:31:11,040

to with 29

2897

03:31:21,190 --> 03:31:18,710

i release my fair lead and

2898

03:31:22,550 --> 03:31:21,200

let's go with the corner apfr to the

2899

03:31:24,150 --> 03:31:22,560

other side

2900

03:31:25,830 --> 03:31:24,160

on the

2901
03:31:26,950 --> 03:31:25,840
front bravo

2902
03:31:29,590 --> 03:31:26,960
a firm

2903
03:31:32,070 --> 03:31:29,600
and shane similarly you'll be relocating

2904
03:31:40,229 --> 03:31:32,080
your apfr which is now in whiff 38

2905
03:31:40,239 --> 03:31:58,990
one seven

2906
03:32:35,510 --> 03:32:01,190
[Music]

2907
03:33:25,900 --> 03:32:35,980
oh

2908
03:33:25,910 --> 03:33:36,070
[Music]

2909
03:33:40,950 --> 03:33:39,750
rotate towards your left shoulder

2910
03:33:43,190 --> 03:33:40,960
behind you

2911
03:33:44,710 --> 03:33:43,200
reach your

2912
03:33:47,190 --> 03:33:44,720
[Music]

2913
03:33:48,790 --> 03:33:47,200

window legs up back to your throat your

2914

03:33:50,070 --> 03:33:48,800

right shoulder

2915

03:33:57,590 --> 03:33:50,080

and

2916

03:33:57,600 --> 03:34:03,030

come towards me a little bit

2917

03:34:06,550 --> 03:34:05,349

nice you swing your legs in direction of

2918

03:34:07,990 --> 03:34:06,560

the ia

2919

03:34:11,990 --> 03:34:08,000

yeah

2920

03:34:12,000 --> 03:34:23,660

that one

2921

03:34:23,670 --> 03:34:29,830

[Music]

2922

03:34:35,990 --> 03:34:31,269

it's between your legs so you have just

2923

03:34:38,950 --> 03:34:36,000

your left leg and motion inboard

2924

03:34:40,870 --> 03:34:38,960

board yes

2925

03:34:42,550 --> 03:34:40,880

and then bring it up

2926

03:34:43,349 --> 03:34:42,560

bend your knee bend your knee bend your

2927

03:34:45,590 --> 03:34:43,359

knee

2928

03:34:48,070 --> 03:34:45,600

and then out forward

2929

03:34:49,830 --> 03:34:48,080

yeah nice to your left

2930

03:34:52,229 --> 03:34:49,840

there you go right there

2931

03:34:54,950 --> 03:34:52,239

across your body perfect

2932

03:35:09,510 --> 03:34:54,960

thanks work with it hey

2933

03:35:09,520 --> 03:35:37,570

okay look at this

2934

03:35:37,580 --> 03:35:50,229

[Music]

2935

03:35:50,239 --> 03:36:10,310

i don't like this one

2936

03:36:10,320 --> 03:36:17,110

[Applause]

2937

03:36:38,790 --> 03:36:19,349

okay

2938

03:36:43,110 --> 03:36:40,630

so we're talking how much extra time

2939

03:36:44,150 --> 03:36:43,120

that we have here and we do have a get

2940

03:36:46,070 --> 03:36:44,160

ahead

2941

03:36:48,469 --> 03:36:46,080

to check a couple of widths with these

2942

03:36:50,389 --> 03:36:48,479

apfrs which is on the way

2943

03:36:52,150 --> 03:36:50,399

to where you'll be installing them for

2944

03:36:54,790 --> 03:36:52,160

the next eva

2945

03:36:57,030 --> 03:36:54,800

so i'm preparing some words for you to

2946

03:36:58,950 --> 03:36:57,040

check an intermediate with prior to

2947

03:37:09,030 --> 03:36:58,960

installing them on the for bravo side

2948

03:37:13,590 --> 03:37:10,550

make sure we got time to get ready for

2949

03:37:16,710 --> 03:37:15,429

that's the main point yep that's what

2950

03:37:18,710 --> 03:37:16,720

we're talking down here we want to give

2951
03:37:19,910 --> 03:37:18,720
you guys plenty of time to prepare for

2952
03:37:21,510 --> 03:37:19,920
those connectors

2953
03:37:23,349 --> 03:37:21,520
so i'm just telling you what the

2954
03:37:32,950 --> 03:37:23,359
conversation is down here

2955
03:37:38,550 --> 03:37:35,110
two has two astronauts doing very well

2956
03:37:42,150 --> 03:37:38,560
on their timeline today uh securing the

2957
03:37:45,590 --> 03:37:42,160
uh irosa ii the mounting bracket

2958
03:37:47,510 --> 03:37:45,600
uh the next steps comes about 30 minutes

2959
03:37:48,710 --> 03:37:47,520
from now they're waiting for an orbital

2960
03:37:50,870 --> 03:37:48,720
sunset

2961
03:37:52,309 --> 03:37:50,880
here stop translating

2962
03:37:54,389 --> 03:37:52,319
it looks like

2963
03:37:57,269 --> 03:37:54,399

your

2964

03:38:01,910 --> 03:37:57,279

camera

2965

03:38:07,190 --> 03:38:01,920

assembly has come attached unattached

2966

03:38:16,070 --> 03:38:10,830

uh yeah i can see that chain

2967

03:38:16,080 --> 03:38:39,750

copy we're looking at it now

2968

03:38:43,030 --> 03:38:41,510

and you want me to go to shane i'll go

2969

03:38:44,070 --> 03:38:43,040

real quick via kf5 and go to

2970

03:38:49,110 --> 03:38:44,080

afterwards

2971

03:38:49,120 --> 03:39:00,710

check in come on

2972

03:39:05,590 --> 03:39:03,349

for both uh both crew shane and tomah

2973

03:39:07,110 --> 03:39:05,600

we're going to put your afros in any

2974

03:39:09,110 --> 03:39:07,120

nearby with

2975

03:39:15,520 --> 03:39:09,120

so drop off your afprs and we're going

2976

03:39:19,030 --> 03:39:17,269

[Applause]

2977

03:39:20,950 --> 03:39:19,040

with this problem popping up it's

2978

03:39:22,389 --> 03:39:20,960

probably clear to you guys but just so

2979

03:39:23,830 --> 03:39:22,399

that we're on the same page

2980

03:39:25,830 --> 03:39:23,840

we're not going to be relocating those

2981

03:39:28,150 --> 03:39:25,840

apfrs now we're just going to be fixing

2982

03:39:30,309 --> 03:39:28,160

this urca and then getting in position

2983

03:39:32,710 --> 03:39:30,319

we have

2984

03:39:43,269 --> 03:39:32,720

around 33 minutes until the working

2985

03:39:48,469 --> 03:39:46,870

uh my apfr is in with 18

2986

03:39:52,870 --> 03:39:48,479

black on black

2987

03:40:00,309 --> 03:39:55,910

all right again good pull task twist us

2988

03:40:05,750 --> 03:40:02,469

is out

2989

03:40:08,229 --> 03:40:05,760

copy good checks and your apfr chain is

2990

03:40:11,349 --> 03:40:08,239

installed with 1818.

2991

03:40:13,990 --> 03:40:11,359

so again the irosa is secured with all

2992

03:40:16,469 --> 03:40:14,000

bolts to the mounting bracket

2993

03:40:17,990 --> 03:40:16,479

the astronauts are now buying time until

2994

03:40:19,510 --> 03:40:18,000

an orbital night time where they can

2995

03:40:22,150 --> 03:40:19,520

work on connecting the remaining

2996

03:40:24,150 --> 03:40:22,160

electrical cables they got a few cables

2997

03:40:26,550 --> 03:40:24,160

connected already some data cables that

2998

03:40:28,150 --> 03:40:26,560

did not require an orbital nighttime in

2999

03:40:30,630 --> 03:40:28,160

order to connect them they're going to

3000

03:40:33,429 --> 03:40:30,640

secure these portable foot restraints

3001
03:40:35,830 --> 03:40:33,439
for now and pesquet is going to go over

3002
03:40:37,269 --> 03:40:35,840
to shane kimbrough and address a helmet

3003
03:40:40,630 --> 03:40:37,279
camera issue just make sure that's

3004
03:40:42,389 --> 03:40:40,640
secured uh to his uh suit make sure they

3005
03:40:44,229 --> 03:40:42,399
get good views from the helmet cameras

3006
03:40:46,229 --> 03:40:44,239
of both astronauts because they're both

3007
03:40:48,630 --> 03:40:46,239
going to be setting up for connecting

3008
03:40:50,550 --> 03:40:48,640
those electrical cables come the eclipse

3009
03:40:51,910 --> 03:40:50,560
or the orbital night time

3010
03:40:53,830 --> 03:40:51,920
so they'll just make sure everything is

3011
03:41:33,189 --> 03:40:53,840
set before they enter into those next

3012
03:41:33,199 --> 03:41:37,510
hey

3013
03:41:37,520 --> 03:41:45,429

face you or what i don't know

3014

03:41:48,870 --> 03:41:47,189

we don't have specific words for you yet

3015

03:41:50,790 --> 03:41:48,880

thomas anything you can tell us about

3016

03:41:52,790 --> 03:41:50,800

how it came unattached will be helpful

3017

03:41:55,990 --> 03:41:52,800

we're talking how to re-secure it down

3018

03:42:00,150 --> 03:41:57,830

so i don't know how it came out attached

3019

03:42:01,349 --> 03:42:00,160

but for spoofing above the

3020

03:42:03,510 --> 03:42:01,359

head it's

3021

03:42:05,030 --> 03:42:03,520

picked in place by the connectors

3022

03:42:29,990 --> 03:42:05,040

um

3023

03:42:34,150 --> 03:42:31,670

come on

3024

03:42:36,870 --> 03:42:34,160

uh we're talking down here there's no

3025

03:42:39,429 --> 03:42:36,880

way to kind of re-engage it so it's nice

3026
03:42:44,150 --> 03:42:39,439
to give shane pats on the head but we

3027
03:42:48,550 --> 03:42:45,349
um

3028
03:42:48,560 --> 03:43:02,950
we're talking about it

3029
03:43:07,910 --> 03:43:05,429
can you locate your left chin so i can

3030
03:43:09,830 --> 03:43:07,920
see both sides

3031
03:43:12,550 --> 03:43:09,840
so what you're looking at is the helmet

3032
03:43:14,550 --> 03:43:12,560
uh camera assembly with the lights that

3033
03:43:15,910 --> 03:43:14,560
are affixed to the top of shane

3034
03:43:19,269 --> 03:43:15,920
kimbrough's suit

3035
03:43:22,229 --> 03:43:19,279
pasque will work on a procedure to try

3036
03:43:25,030 --> 03:43:22,239
to secure that helmet assembly to the

3037
03:43:26,389 --> 03:43:25,040
top of kimbrough's suit those lights

3038
03:43:28,389 --> 03:43:26,399

will be needed

3039

03:43:30,229 --> 03:43:28,399

for some of the upcoming procedures to

3040

03:43:31,590 --> 03:43:30,239

shine onto the cables that they'll need

3041

03:43:33,750 --> 03:43:31,600

to connect

3042

03:43:37,110 --> 03:43:33,760

so the ground teams here in mission

3043

03:43:38,229 --> 03:43:37,120

control are working on a solution uh to

3044

03:43:40,630 --> 03:43:38,239

uh

3045

03:43:43,429 --> 03:43:40,640

figure a way to affix that camera

3046

03:43:45,910 --> 03:43:43,439

assembly to kim rose uh

3047

03:43:48,070 --> 03:43:45,920

emu or spacesuit we're probably gonna

3048

03:43:49,510 --> 03:43:48,080

have to use a tether or a wire tie or

3049

03:43:50,950 --> 03:43:49,520

something but we're still looking for

3050

03:43:53,269 --> 03:43:50,960

the exact words on how to get this

3051
03:43:56,150 --> 03:43:53,279
reattached we won't be able to just push

3052
03:43:57,990 --> 03:43:56,160
it push it on because you'd have to

3053
03:43:59,189 --> 03:43:58,000
basically deconflict and move two tabs

3054
03:44:06,309 --> 03:43:59,199
out of the way to get it back on

3055
03:44:06,319 --> 03:44:09,750
the bracket itself

3056
03:44:13,510 --> 03:44:11,189
and our sleeve is going to keep it

3057
03:44:13,930 --> 03:44:13,520
attached

3058
03:44:15,269 --> 03:44:13,940
and then

3059
03:44:17,670 --> 03:44:15,279
[Music]

3060
03:44:19,670 --> 03:44:17,680
you have a wire tie around

3061
03:44:20,950 --> 03:44:19,680
um that knob on the right side of the

3062
03:44:22,309 --> 03:44:20,960
helmet

3063
03:44:23,990 --> 03:44:22,319

and there's something you can close the

3064

03:44:26,309 --> 03:44:24,000

visor but then that means you keep your

3065

03:44:36,710 --> 03:44:26,319

visors down the rest of the time

3066

03:44:40,389 --> 03:44:38,309

i think i'll do that

3067

03:44:43,590 --> 03:44:40,399

uh i'll see if they say you all screwed

3068

03:44:47,750 --> 03:44:45,349

you with a right from the new york

3069

03:44:49,590 --> 03:44:47,760

station that you could spare sure

3070

03:44:51,590 --> 03:44:49,600

because um

3071

03:44:54,309 --> 03:44:51,600

hey jenny um

3072

03:44:56,389 --> 03:44:54,319

my suggestion here is a red to the

3073

03:44:57,910 --> 03:44:56,399

bracket from machines new york stations

3074

03:45:00,309 --> 03:44:57,920

at least it's six it's not going to go

3075

03:45:01,429 --> 03:45:00,319

anywhere and then i'll wire a try

3076

03:45:01,950 --> 03:45:01,439

um

3077

03:45:03,269 --> 03:45:01,960

on the

3078

03:45:06,070 --> 03:45:03,279

[Music]

3079

03:45:08,790 --> 03:45:06,080

i do a good job on the on the knob that

3080

03:45:10,309 --> 03:45:08,800

lowers and raises the sun visor

3081

03:45:12,870 --> 03:45:10,319

at least on one side and then hopefully

3082

03:45:16,870 --> 03:45:12,880

on the other side too

3083

03:45:19,590 --> 03:45:16,880

i have plenty of adjustable just as well

3084

03:45:21,349 --> 03:45:19,600

we're happy with that plan and

3085

03:45:23,269 --> 03:45:21,359

just to confirm shane you will not be

3086

03:45:27,990 --> 03:45:23,279

able to actuate your visor with that

3087

03:45:32,710 --> 03:45:30,790

okay that is very true

3088

03:45:34,469 --> 03:45:32,720

okay i think the best is that you go

3089

03:45:36,710 --> 03:45:34,479

back to your main workstation

3090

03:45:37,750 --> 03:45:36,720

uh tether coming from somewhere on the

3091

03:45:42,229 --> 03:45:37,760

right

3092

03:45:51,510 --> 03:45:42,239

and then i'll reach somewhere on the

3093

03:45:51,520 --> 03:46:16,229

this one has the picture yep

3094

03:46:16,239 --> 03:46:22,389

occasion to expect

3095

03:46:26,150 --> 03:46:24,389

okay i will write on it

3096

03:46:37,830 --> 03:46:26,160

it's unlocked invoke it can you unlock

3097

03:46:40,229 --> 03:46:39,189

i'm getting a better position for you

3098

03:46:41,349 --> 03:46:40,239

let me know

3099

03:46:42,950 --> 03:46:41,359

it's

3100

03:46:45,189 --> 03:46:42,960

good for those just that i don't have

3101
03:46:47,110 --> 03:46:45,199
almost hold on hold

3102
03:46:50,790 --> 03:46:47,120
on this one

3103
03:46:53,030 --> 03:46:50,800
this hand hold here

3104
03:46:53,390 --> 03:46:53,040
things like this is not too bad

3105
03:46:55,269 --> 03:46:53,400
um

3106
03:46:58,469 --> 03:46:55,279
[Music]

3107
03:46:59,750 --> 03:46:58,479
can you hold it with one hand

3108
03:47:02,389 --> 03:46:59,760
everywhere

3109
03:47:05,830 --> 03:47:02,399
on your reflection as best you can yeah

3110
03:47:06,160 --> 03:47:05,840
yeah okay

3111
03:47:07,269 --> 03:47:06,170
sorry

3112
03:48:12,950 --> 03:47:07,279
[Music]

3113
03:49:14,950 --> 03:48:14,469

to

3114

03:49:14,960 --> 03:49:19,429

all right

3115

03:49:32,910 --> 03:49:22,309

roger's like halfway right now so

3116

03:49:41,429 --> 03:49:36,150

[Music]

3117

03:50:02,150 --> 03:49:43,670

you bring the opening devices down thank

3118

03:50:07,990 --> 03:50:04,870

it doesn't really catch anything

3119

03:50:18,550 --> 03:50:09,530

for you

3120

03:50:23,269 --> 03:50:20,469

i think i'm

3121

03:50:25,670 --> 03:50:23,279

a creative solution by tomah pesquet to

3122

03:50:28,070 --> 03:50:25,680

secure the helmet camera assembly with

3123

03:50:31,269 --> 03:50:28,080

the lights uh the lights in particular

3124

03:50:33,670 --> 03:50:31,279

needed for the upcoming procedures to

3125

03:50:36,389 --> 03:50:33,680

connect some electrical cable cables in

3126

03:50:39,830 --> 03:50:36,399

orbital night time using a wire tire a

3127

03:50:42,469 --> 03:50:39,840

wire tie to temporarily secure the uh

3128

03:50:45,750 --> 03:50:42,479

helmet camera assembly to a shane

3129

03:50:49,189 --> 03:50:45,760

kimbrough suit allowing him to see

3130

03:50:52,710 --> 03:50:49,199

the cables that he will be connecting

3131

03:50:54,309 --> 03:50:52,720

there are only a few cables needed and

3132

03:51:00,830 --> 03:50:54,319

these cables do need to be connected

3133

03:51:11,110 --> 03:51:03,750

nighttime i am not using the visor

3134

03:51:19,510 --> 03:51:13,990

okay

3135

03:51:22,229 --> 03:51:19,520

that was a great sorry to hold it yeah

3136

03:51:23,670 --> 03:51:22,239

no yeah now you can let go you can

3137

03:51:26,229 --> 03:51:23,680

take a break

3138

03:51:27,910 --> 03:51:26,239

and uh be working on that side

3139

03:51:34,229 --> 03:51:27,920

i'll be looking forward

3140

03:51:37,000 --> 03:51:36,229

like your position here it is a great

3141

03:51:39,269 --> 03:51:37,010

position

3142

03:51:40,870 --> 03:51:39,279

[Applause]

3143

03:51:42,950 --> 03:51:40,880

hey danny how much time we still having

3144

03:51:45,030 --> 03:51:42,960

merry christmas

3145

03:52:16,469 --> 03:51:45,040

copy we still have 21 minutes until our

3146

03:52:19,269 --> 03:52:17,670

all right thanks for that uh

3147

03:52:21,349 --> 03:52:19,279

troubleshooting and tomorrow getting

3148

03:52:22,630 --> 03:52:21,359

your buddy back in a good config

3149

03:52:24,950 --> 03:52:22,640

while you're still with shane if we

3150

03:52:26,550 --> 03:52:24,960

could get you to turn on his heka

3151
03:52:33,349 --> 03:52:26,560
we'd also appreciate that because that

3152
03:52:33,359 --> 03:52:40,710
okay understood

3153
03:52:40,720 --> 03:52:54,710
got it

3154
03:53:00,229 --> 03:52:57,590
uh can you come towards me a little bit

3155
03:53:01,750 --> 03:53:00,239
uh and bring you guys the pitch up boy

3156
03:53:05,670 --> 03:53:01,760
up

3157
03:53:11,189 --> 03:53:08,790
yeah good

3158
03:53:13,189 --> 03:53:11,199
so again a creative solution by tomah

3159
03:53:16,309 --> 03:53:13,199
pesquet to secure the helmet camera

3160
03:53:18,630 --> 03:53:16,319
assembly uh to shane kimbrough's suit

3161
03:53:20,150 --> 03:53:18,640
that'll provide him nice lighting

3162
03:53:22,389 --> 03:53:20,160
and of course the camera views for the

3163
03:53:24,790 --> 03:53:22,399

teams here on the ground to monitor uh

3164

03:53:27,110 --> 03:53:24,800

the steps that are critical to occur

3165

03:53:29,189 --> 03:53:27,120

during an orbital night time these are

3166

03:53:30,950 --> 03:53:29,199

electrical cables uh so they need to

3167

03:53:34,150 --> 03:53:30,960

occur during night time so the solar

3168

03:53:35,349 --> 03:53:34,160

arrays on the 2b channel are not drawing

3169

03:53:37,510 --> 03:53:35,359

any power

3170

03:53:39,670 --> 03:53:37,520

the plan now is to secure the helmet

3171

03:53:40,790 --> 03:53:39,680

camera assembly using these wire ties

3172

03:53:42,790 --> 03:53:40,800

get um

3173

03:53:44,870 --> 03:53:42,800

uh shane kimbrough in a good

3174

03:53:47,110 --> 03:53:44,880

configuration and then the two will make

3175

03:53:59,429 --> 03:53:47,120

their way over to the work site uh get

3176
03:53:59,439 --> 03:54:21,349
let's go

3177
03:54:21,359 --> 03:54:55,429
foreign

3178
03:55:03,110 --> 03:54:57,910
you hold it down and off with your right

3179
03:55:03,120 --> 03:55:06,950
okay

3180
03:55:06,960 --> 03:55:51,110
we're ready part two

3181
03:55:51,120 --> 03:56:04,950
nice

3182
03:56:07,670 --> 03:56:06,150
there we go

3183
03:56:09,590 --> 03:56:07,680
all right it's moving a little bit off

3184
03:56:11,830 --> 03:56:09,600
let's go

3185
03:56:12,790 --> 03:56:11,840
bring it forward a little bit you can i

3186
03:56:18,070 --> 03:56:12,800
don't know

3187
03:56:22,710 --> 03:56:19,429
then

3188
03:56:36,950 --> 03:56:22,720

light the light put it around with it

3189

03:56:36,960 --> 03:56:54,710

the helmet first of all

3190

03:57:18,630 --> 03:56:56,469

never read on it right

3191

03:57:18,640 --> 03:57:37,030

there's nothing to hold onto

3192

03:57:37,040 --> 03:58:09,670

thank you

3193

03:58:24,469 --> 03:58:10,950

no

3194

03:58:24,479 --> 03:58:43,030

is probably the best option

3195

03:58:43,040 --> 03:58:49,429

this a little bit

3196

03:58:52,469 --> 03:58:50,870

we're keeping an eye on the time and

3197

03:58:54,870 --> 03:58:52,479

we're only going to work this for about

3198

03:58:57,349 --> 03:58:54,880

two more minutes and at that point we're

3199

03:59:00,630 --> 03:58:57,359

going to move both of you in position on

3200

03:59:02,309 --> 03:59:00,640

shane's side of the cables considering

3201

03:59:17,670 --> 03:59:02,319

this helmet issue and then we'll talk

3202

03:59:17,680 --> 03:59:20,870

i think about something

3203

03:59:20,880 --> 03:59:48,870

copy

3204

03:59:53,189 --> 03:59:51,110

okay i think the right side is good

3205

03:59:55,189 --> 03:59:53,199

washing rotate couldn't go to your right

3206

03:59:58,229 --> 03:59:55,199

side not your right side

3207

04:00:00,950 --> 03:59:58,239

right side over your right side

3208

04:00:02,630 --> 04:00:00,960

to the right side

3209

04:00:05,990 --> 04:00:02,640

put your right shoulder on the eye yeah

3210

04:00:11,990 --> 04:00:08,070

okay i copy that you guys think it's in

3211

04:00:15,030 --> 04:00:13,349

yeah i think for mentioning a good

3212

04:00:16,630 --> 04:00:15,040

config

3213

04:00:18,229 --> 04:00:16,640

all right i'll have to redo the wire tie

3214

04:00:19,670 --> 04:00:18,239

on the right but i think for now it's

3215

04:00:30,950 --> 04:00:19,680

not going anywhere

3216

04:00:35,189 --> 04:00:33,189

guys we can revisit this

3217

04:00:37,670 --> 04:00:35,199

might be undone

3218

04:00:39,030 --> 04:00:37,680

we can revisit this after the cables but

3219

04:00:40,630 --> 04:00:39,040

at this point we're going to have to get

3220

04:00:42,710 --> 04:00:40,640

you in position

3221

04:00:47,269 --> 04:00:42,720

both on the left side of the mounting

3222

04:00:52,790 --> 04:00:48,950

okay but i'm going to have to redo

3223

04:00:57,030 --> 04:00:54,469

let's do it understood somehow we're

3224

04:00:59,189 --> 04:00:57,040

just up against that clock

3225

04:01:01,269 --> 04:00:59,199

because i need both sides to hold

3226

04:01:02,950 --> 04:01:01,279

otherwise i cannot get something

3227

04:01:04,950 --> 04:01:02,960

straight on just one side

3228

04:01:12,150 --> 04:01:04,960

so and now right now just one section

3229

04:01:17,510 --> 04:01:13,429

anyways

3230

04:01:17,520 --> 04:01:36,229

is

3231

04:01:39,990 --> 04:01:37,830

to confirm you're going to be following

3232

04:01:43,189 --> 04:01:40,000

shane to his work site make sure that

3233

04:01:45,189 --> 04:01:43,199

he's a good in in a good case

3234

04:01:47,030 --> 04:01:45,199

make sure he's in a good config for

3235

04:01:50,550 --> 04:01:47,040

those tables because we understand the

3236

04:01:50,560 --> 04:01:55,030

and then

3237

04:01:55,040 --> 04:01:58,830

say again

3238

04:02:01,990 --> 04:02:00,309

okay is uh

3239

04:02:07,670 --> 04:02:02,000

it got his light form so i think it's

3240

04:02:11,269 --> 04:02:09,510

okay we're comfortable with that tomah

3241

04:02:13,110 --> 04:02:11,279

you can head to your side of the cables

3242

04:02:14,389 --> 04:02:13,120

if from where you're

3243

04:02:19,750 --> 04:02:14,399

currently at

3244

04:02:24,150 --> 04:02:22,309

thanks tomorrow well

3245

04:02:25,990 --> 04:02:24,160

i need to come back and spend every

3246

04:02:28,309 --> 04:02:26,000

single year

3247

04:02:30,070 --> 04:02:28,319

understood tomorrow we can plan for that

3248

04:02:31,910 --> 04:02:30,080

uh we just again we want to make sure

3249

04:02:33,269 --> 04:02:31,920

that we get this pinch point right we're

3250

04:02:34,950 --> 04:02:33,279

still

3251
04:02:41,189 --> 04:02:34,960
10 minutes away from our working eclipse

3252
04:02:46,070 --> 04:02:43,189
okay we're both sufficient

3253
04:02:47,830 --> 04:02:46,080
copies understood and shane for your

3254
04:02:50,070 --> 04:02:47,840
awareness we do not have your camera

3255
04:02:51,269 --> 04:02:50,080
views which is fine but we will not be

3256
04:02:53,030 --> 04:02:51,279
able to help you

3257
04:02:56,469 --> 04:02:53,040
troubleshoot these cables if there is an

3258
04:03:04,550 --> 04:02:58,309
look at that that's my first harm just

3259
04:03:08,870 --> 04:03:07,349
so with a little creativity by the uh

3260
04:03:11,189 --> 04:03:08,880
astronauts currently outside the

3261
04:03:13,750 --> 04:03:11,199
international space station tamapesque

3262
04:03:15,750 --> 04:03:13,760
was able to assist shane kimbrough in

3263
04:03:18,309 --> 04:03:15,760

temporarily securing his helmet camera

3264

04:03:20,150 --> 04:03:18,319

assembly with the lights uh to the top

3265

04:03:21,670 --> 04:03:20,160

of his spacesuit he'll need the lights

3266

04:03:23,750 --> 04:03:21,680

to connect the cables that are in front

3267

04:03:25,790 --> 04:03:23,760

of him you're seeing the cables that are

3268

04:03:29,189 --> 04:03:25,800

in front of the helmet camera view of

3269

04:03:30,950 --> 04:03:29,199

tomate they are in position ready to go

3270

04:03:32,870 --> 04:03:30,960

uh they can't start connecting the

3271

04:03:35,110 --> 04:03:32,880

cables until they're in an orbital night

3272

04:03:37,030 --> 04:03:35,120

time make sure no power is being drawn

3273

04:03:38,870 --> 04:03:37,040

from the station solar arrays and

3274

04:03:40,870 --> 04:03:38,880

they'll begin the electrical connections

3275

04:03:42,870 --> 04:03:40,880

they're both on each respective side of

3276

04:03:45,189 --> 04:03:42,880

the station's solar arrays

3277

04:03:46,469 --> 04:03:45,199

they have the cables ready to go they

3278

04:03:47,590 --> 04:03:46,479

are in position and will make the

3279

04:03:53,590 --> 04:03:47,600

connections

3280

04:03:58,469 --> 04:03:55,349

shane kimbrough is in a good

3281

04:04:01,189 --> 04:03:58,479

configuration with the lights uh on and

3282

04:04:02,790 --> 04:04:01,199

providing illumination of his work site

3283

04:04:05,349 --> 04:04:02,800

so uh

3284

04:04:07,189 --> 04:04:05,359

pesquet made his way over to his

3285

04:04:09,110 --> 04:04:07,199

respective work site so they're flanking

3286

04:04:11,269 --> 04:04:09,120

both sides of the solar array and

3287

04:04:14,389 --> 04:04:11,279

they'll be able to make the connections

3288

04:04:16,389 --> 04:04:14,399

on each side if necessary piscay can go

3289

04:04:18,870 --> 04:04:16,399

over to assist shane kimbrough since he

3290

04:04:21,189 --> 04:04:18,880

does have his helmet camera assembly

3291

04:04:23,030 --> 04:04:21,199

with the lights and of course the camera

3292

04:04:25,110 --> 04:04:23,040

views that the teams that you're seeing

3293

04:04:27,910 --> 04:04:25,120

here in mission control houston can see

3294

04:04:29,830 --> 04:04:27,920

the work site and troubleshoot any uh

3295

04:04:31,750 --> 04:04:29,840

issues as necessary

3296

04:04:33,830 --> 04:04:31,760

starting the cables at this time but

3297

04:04:36,469 --> 04:04:33,840

just for your awareness

3298

04:05:29,510 --> 04:04:36,479

shane you will be starting with p7

3299

04:05:29,520 --> 04:06:21,670

thank you

3300

04:06:28,229 --> 04:06:24,790

of a consumables update for both of you

3301
04:06:29,110 --> 04:06:28,239
nothing conceivable ev1 medics 6 hour 30

3302
04:06:34,630 --> 04:06:29,120
minutes

3303
04:06:40,710 --> 04:06:34,640
a glove inspection hop check and

3304
04:06:40,720 --> 04:06:43,910
it's down

3305
04:06:49,590 --> 04:06:46,550
that's a good nice glove for ev1 and a

3306
04:06:53,349 --> 04:06:51,189
what's up easy one

3307
04:06:57,590 --> 04:06:53,359
good glass dry hat

3308
04:06:57,600 --> 04:07:33,590
good checks for eb2

3309
04:07:37,349 --> 04:07:36,229
we are five minutes out from our eclipse

3310
04:07:39,910 --> 04:07:37,359
i have

3311
04:07:42,229 --> 04:07:39,920
two warnings for both of you and just to

3312
04:07:43,590 --> 04:07:42,239
be clear i'll be giving you the go once

3313
04:07:53,510 --> 04:07:43,600

we are at the correct time and we have

3314

04:07:57,990 --> 04:07:55,670

the warnings are you must not demate the

3315

04:08:00,229 --> 04:07:58,000

stall connectors until eclipse plus two

3316

04:08:02,389 --> 04:08:00,239

minutes and mcc go

3317

04:08:04,790 --> 04:08:02,399

and you must maintain a one foot keep

3318

04:08:07,349 --> 04:08:04,800

out zone from any saw connectors which

3319

04:08:08,149 --> 04:08:07,359

are demated starting two minutes prior

3320

04:08:18,070 --> 04:08:08,159

to

3321

04:08:23,429 --> 04:08:19,349

i don't know if we still have you but

3322

04:08:25,590 --> 04:08:23,439

you were breaking up begin copy

3323

04:08:28,229 --> 04:08:25,600

okay i'll read your warnings again crew

3324

04:08:31,110 --> 04:08:28,239

must not demate saw cables until eclipse

3325

04:08:33,189 --> 04:08:31,120

plus two minutes and on mcc go

3326

04:08:35,429 --> 04:08:33,199

and you must maintain a one foot keep

3327

04:08:43,469 --> 04:08:35,439

out zone from any saw connectors which

3328

04:08:43,479 --> 04:08:52,309

demated on chair

3329

04:08:56,229 --> 04:08:54,149

another handover and some of the video

3330

04:08:58,070 --> 04:08:56,239

coming from the space station should be

3331

04:08:59,750 --> 04:08:58,080

regaining it soon as we enter into an

3332

04:09:01,429 --> 04:08:59,760

orbital night time and the two

3333

04:09:03,670 --> 04:09:01,439

astronauts begin the procedures to

3334

04:09:06,070 --> 04:09:03,680

connect some of the electrical cables

3335

04:09:21,340 --> 04:09:06,080

that are necessary to perform during an

3336

04:09:21,350 --> 04:10:08,389

[Applause]

3337

04:10:08,399 --> 04:10:37,630

um

3338

04:10:37,640 --> 04:10:51,269

[Applause]

3339

04:10:55,510 --> 04:10:53,429

flight controller is monitoring

3340

04:10:57,429 --> 04:10:55,520

the uh power uh

3341

04:10:59,510 --> 04:10:57,439

systems on board the international space

3342

04:11:00,870 --> 04:10:59,520

station making sure that current is not

3343

04:11:04,550 --> 04:11:00,880

flowing through

3344

04:11:06,790 --> 04:11:04,560

uh the 2b power channel an estimated two

3345

04:11:08,870 --> 04:11:06,800

more minutes until the astronauts are

3346

04:11:11,670 --> 04:11:08,880

given a go to start making the

3347

04:11:14,630 --> 04:11:11,680

electrical connections necessary uh to

3348

04:11:18,309 --> 04:11:14,640

complete the uh well in part to complete

3349

04:11:21,189 --> 04:11:18,319

the installation of uh the irosa over a

3350

04:11:22,229 --> 04:11:21,199

minute until our working portion of the

3351
04:11:23,830 --> 04:11:22,239
eclipse

3352
04:11:29,910 --> 04:11:23,840
and again we'll be giving you to go when

3353
04:11:33,429 --> 04:11:31,670
we're ready

3354
04:11:35,510 --> 04:11:33,439
these electrical connections should be

3355
04:11:36,950 --> 04:11:35,520
the final steps

3356
04:11:40,790 --> 04:11:36,960
to install

3357
04:11:42,469 --> 04:11:40,800
the irosa to the mounting bracket

3358
04:11:43,830 --> 04:11:42,479
once they complete the electrical

3359
04:11:45,830 --> 04:11:43,840
connections and flight control is

3360
04:11:48,630 --> 04:11:45,840
determined everything is go to proceed

3361
04:11:50,630 --> 04:11:48,640
the next steps will be to deploy

3362
04:11:53,189 --> 04:11:50,640
the solar array while the two astronauts

3363
04:11:56,469 --> 04:11:53,199

are out of the work site there are two

3364

04:11:57,670 --> 04:11:56,479

bolts that are keeping the solar arrays

3365

04:12:02,149 --> 04:11:57,680

together

3366

04:12:05,429 --> 04:12:03,990

restraint bolts

3367

04:12:07,670 --> 04:12:05,439

and the launch restraint there are two

3368

04:12:11,269 --> 04:12:07,680

of them that are needed to be undone in

3369

04:12:48,710 --> 04:12:11,279

order to release both of the solar array

3370

04:12:54,229 --> 04:12:51,429

all right we are go for connections so

3371

04:12:56,070 --> 04:12:54,239

to start toma you will be demating p9

3372

04:13:06,020 --> 04:12:56,080

from the blanket box and shane you will

3373

04:13:06,030 --> 04:13:10,309

[Music]

3374

04:13:10,319 --> 04:13:15,349

e7 is

3375

04:13:21,590 --> 04:13:17,670

you will be

3376

04:13:24,469 --> 04:13:21,600

mating the right side p9 alpha to panel

3377

04:13:27,590 --> 04:13:24,479

p9 coma and chain

3378

04:13:44,220 --> 04:13:27,600

p7 alpha to panel p7 i'll take a check

3379

04:13:55,429 --> 04:13:50,570

[Music]

3380

04:13:58,149 --> 04:13:55,439

in my damn

3381

04:14:00,469 --> 04:13:58,159

puppy good checks

3382

04:14:04,950 --> 04:14:00,479

thanks for your

3383

04:14:08,710 --> 04:14:06,950

before giving the go to connect the

3384

04:14:10,389 --> 04:14:08,720

cables the astronauts inspecting the

3385

04:14:11,510 --> 04:14:10,399

inside of them for any foreign object

3386

04:14:13,189 --> 04:14:11,520

debris

3387

04:14:22,710 --> 04:14:13,199

making sure they're clean before making

3388

04:14:22,720 --> 04:14:26,149

made it for ev2

3389

04:14:32,950 --> 04:14:30,309

copy p7 alpha mated to p7 for ev2

3390

04:14:38,469 --> 04:14:32,960

you can move on to j7 alpha to the saw

3391

04:14:38,479 --> 04:14:48,830

okay that didn't

3392

04:14:55,590 --> 04:14:52,149

work all right good pins

3393

04:15:06,389 --> 04:14:55,600

that's alright gdmi van

3394

04:15:13,670 --> 04:15:10,389

copy j7 alpha mated to p7 shane will

3395

04:15:15,269 --> 04:15:13,680

have you move on to p21 you can demate

3396

04:15:21,429 --> 04:15:15,279

that connector from the blanket box

3397

04:15:26,389 --> 04:15:24,149

a p9 is mated to

3398

04:15:29,269 --> 04:15:26,399

panel

3399

04:15:33,750 --> 04:15:29,279

we're working on jnr and alpha

3400

04:15:43,510 --> 04:15:36,950

copy p21 demated and uh for tomorrow

3401
04:15:43,520 --> 04:15:47,910
good check from j9 alpha

3402
04:15:51,590 --> 04:15:49,750
capital

3403
04:15:55,670 --> 04:15:51,600
shane we're looking for

3404
04:16:05,110 --> 04:16:01,670
j9 alpha 4 23 mated to p9 moving on to

3405
04:16:11,750 --> 04:16:05,120
p23 for tomah shane you'll be connecting

3406
04:16:11,760 --> 04:16:21,510
okay no fire no

3407
04:16:35,189 --> 04:16:23,680
and going for a connection

3408
04:16:52,500 --> 04:16:37,990
those are good checks on p23 alpha

3409
04:16:52,510 --> 04:17:26,149
[Applause]

3410
04:17:26,159 --> 04:17:33,830
yeah struggling with this one

3411
04:17:41,429 --> 04:17:37,110
all right p23

3412
04:17:42,870 --> 04:17:41,439
okay uh p23 on my panel is connected to

3413
04:17:44,790 --> 04:17:42,880

uh

3414

04:17:48,630 --> 04:17:44,800

203 alpha

3415

04:17:51,110 --> 04:17:48,640

copy p23 alpha to p23 connection

3416

04:17:55,990 --> 04:17:51,120

23

3417

04:18:00,950 --> 04:17:56,000

making that connection

3418

04:18:04,149 --> 04:18:02,389

and shane jimmy i'm going to move on to

3419

04:18:08,070 --> 04:18:04,159

my last one and then come back to this

3420

04:18:15,910 --> 04:18:11,189

guppy that sounds fine to me uh

3421

04:18:28,710 --> 04:18:15,920

shane you'll be mating j21 alpha to p21

3422

04:18:32,389 --> 04:18:30,950

i got all four connections

3423

04:18:45,510 --> 04:18:32,399

made

3424

04:18:48,630 --> 04:18:47,110

all right jenny i've got one more to go

3425

04:18:52,950 --> 04:18:48,640

i got that last one

3426
04:19:00,229 --> 04:18:55,510
come on that was j21 alpha to p21 you

3427
04:19:00,239 --> 04:19:05,830
23 23.

3428
04:19:09,110 --> 04:19:07,110
okay jimmy

3429
04:19:13,189 --> 04:19:09,120
for eb2

3430
04:19:15,750 --> 04:19:13,199
the 221 connections are now done

3431
04:19:17,910 --> 04:19:15,760
copy those are all of our connectors

3432
04:19:18,870 --> 04:19:17,920
well done both of you plenty of time

3433
04:19:21,349 --> 04:19:18,880
left

3434
04:19:23,590 --> 04:19:21,359
now i'll have you secure the strut mli

3435
04:19:31,750 --> 04:19:23,600
over the mod kit fasteners you can use

3436
04:19:31,760 --> 04:19:55,510
there give him a shot here

3437
04:19:55,520 --> 04:20:07,440
we're looking tomorrow

3438
04:20:07,450 --> 04:20:10,550

[Music]

3439

04:20:10,560 --> 04:20:14,229

looks pretty good

3440

04:20:14,239 --> 04:20:20,710

we're assessing it you guys

3441

04:20:32,630 --> 04:20:22,950

again we can see your helmet cam someone

3442

04:20:40,070 --> 04:20:35,030

i think the mri is wrapped inside looks

3443

04:20:42,950 --> 04:20:41,990

i'm going to remove beauty contest but

3444

04:20:44,710 --> 04:20:42,960

uh

3445

04:20:46,790 --> 04:20:44,720

the whole metallic structure is wrapped

3446

04:20:48,630 --> 04:20:46,800

around mri

3447

04:21:01,110 --> 04:20:48,640

all right copy we're discussing down

3448

04:21:08,870 --> 04:21:03,510

we're happy with your side of the mli

3449

04:21:08,880 --> 04:21:24,940

okay

3450

04:21:24,950 --> 04:21:45,110

[Applause]

3451
04:21:49,429 --> 04:21:47,349
question uh going back to the cables for

3452
04:21:50,950 --> 04:21:49,439
both shane and tomah we don't want you

3453
04:21:52,469 --> 04:21:50,960
to head back to the cable connections

3454
04:21:54,309 --> 04:21:52,479
because we're doing some safing steps

3455
04:21:55,910 --> 04:21:54,319
now but since we don't know what these

3456
04:21:58,149 --> 04:21:55,920
are like on orbit could you report

3457
04:22:01,030 --> 04:21:58,159
whether when you mated to the panel you

3458
04:22:02,950 --> 04:22:01,040
felt a click like the wing tab connector

3459
04:22:08,070 --> 04:22:02,960
went over

3460
04:22:11,429 --> 04:22:10,070
yeah absolutely on all four of them you

3461
04:22:13,349 --> 04:22:11,439
feel it quick

3462
04:22:15,030 --> 04:22:13,359
once you get it kind of lined up and now

3463
04:22:16,229 --> 04:22:15,040

it seats and then you can rotate it

3464

04:22:19,830 --> 04:22:16,239

nicely and

3465

04:22:23,269 --> 04:22:21,670

perfect and that was on the cable side

3466

04:22:27,830 --> 04:22:23,279

as well you felt that little detent

3467

04:22:27,840 --> 04:22:32,229

on all four of them

3468

04:22:35,189 --> 04:22:33,830

okay great thank you for the

3469

04:22:41,910 --> 04:22:35,199

confirmation

3470

04:22:48,149 --> 04:22:45,750

with 20 minutes of night time to spare

3471

04:22:49,269 --> 04:22:48,159

the electrical cable connections are

3472

04:22:51,189 --> 04:22:49,279

complete

3473

04:22:53,429 --> 04:22:51,199

now the astronauts will continue some of

3474

04:22:56,790 --> 04:22:53,439

their additional work including

3475

04:23:00,309 --> 04:22:56,800

covering with multi-layer insulation

3476

04:23:02,149 --> 04:23:00,319

they'll also perform a test ahead of

3477

04:23:05,910 --> 04:23:02,159

loosening those

3478

04:23:07,910 --> 04:23:05,920

bolts necessary to unfurl or deploy the

3479

04:23:09,830 --> 04:23:07,920

solar arrays themselves those bolts

3480

04:23:11,189 --> 04:23:09,840

called launch restraint bolts there are

3481

04:23:12,710 --> 04:23:11,199

two of them

3482

04:23:15,510 --> 04:23:12,720

and that will be one of the next steps

3483

04:23:22,790 --> 04:23:15,520

after all the tests to verify that the

3484

04:23:43,510 --> 04:23:24,870

now yet tomah i should be able to tell

3485

04:23:46,870 --> 04:23:45,349

it's gonna be great if you bump it

3486

04:23:48,309 --> 04:23:46,880

everything

3487

04:23:49,990 --> 04:23:48,319

holds off i mean

3488

04:23:51,110 --> 04:23:50,000

there's a lot on the cable so it's not

3489

04:23:53,510 --> 04:23:51,120

gonna go anywhere it's gonna go on

3490

04:23:57,590 --> 04:23:55,269

at least it's gonna make it more stable

3491

04:23:57,600 --> 04:24:15,670

okay thanks for you guys

3492

04:24:18,950 --> 04:24:17,429

another handover of the video

3493

04:24:20,870 --> 04:24:18,960

communications coming from the

3494

04:24:22,710 --> 04:24:20,880

international space station handing over

3495

04:24:24,710 --> 04:24:22,720

those satellites as the station

3496

04:24:27,590 --> 04:24:24,720

continues to orbit the earth

3497

04:24:29,590 --> 04:24:27,600

again the electrical connections uh that

3498

04:24:32,389 --> 04:24:29,600

were required to be mated during an

3499

04:24:34,630 --> 04:24:32,399

orbital night time were completed with a

3500

04:24:35,990 --> 04:24:34,640

lot of time to spare in that orbital

3501
04:24:37,910 --> 04:24:36,000
night time they're getting some of their

3502
04:24:39,349 --> 04:24:37,920
other tasks out of the way including

3503
04:24:41,910 --> 04:24:39,359
covering some of the components with

3504
04:24:43,830 --> 04:24:41,920
multi-layer insulation we can expect a

3505
04:24:45,750 --> 04:24:43,840
test ahead of

3506
04:24:48,149 --> 04:24:45,760
deploying the solar arrays just to make

3507
04:24:49,910 --> 04:24:48,159
sure everything is in shape

3508
04:24:52,070 --> 04:24:49,920
for those solar arrays before that is

3509
04:24:53,269 --> 04:24:52,080
made that we're doing down here after

3510
04:24:56,469 --> 04:24:53,279
you guys successfully made it those

3511
04:25:04,100 --> 04:24:56,479
cables so tomorrow you can translate to

3512
04:25:09,030 --> 04:25:06,950
[Applause]

3513
04:25:11,030 --> 04:25:09,040

i need access to

3514

04:25:13,590 --> 04:25:11,040

actually you know what i'm going to go

3515

04:25:21,590 --> 04:25:13,600

down here

3516

04:25:26,870 --> 04:25:23,349

before the electrical connections were

3517

04:25:27,830 --> 04:25:26,880

made sk used wire ties to temporarily

3518

04:25:30,229 --> 04:25:27,840

secure

3519

04:25:32,710 --> 04:25:30,239

uh shane kimbrell's helmet assembly that

3520

04:25:35,030 --> 04:25:32,720

includes the cameras and lights on top

3521

04:25:37,750 --> 04:25:35,040

of his spacesuit that's secured with

3522

04:25:40,149 --> 04:25:37,760

wire ties he's going to continue to work

3523

04:25:42,950 --> 04:25:40,159

on that helmet with some time to spare

3524

04:25:52,950 --> 04:25:42,960

before they get into the steps necessary

3525

04:26:03,880 --> 04:25:55,670

okay

3526

04:26:03,890 --> 04:26:19,830

[Music]

3527

04:26:26,710 --> 04:26:21,910

there's something that your choice is

3528

04:26:26,720 --> 04:26:30,630

go higher

3529

04:26:30,640 --> 04:28:30,870

foreign

3530

04:28:34,309 --> 04:28:32,070

beautiful

3531

04:28:42,070 --> 04:28:34,319

okay good okay

3532

04:28:49,990 --> 04:28:46,070

oh man thank you sir you're good

3533

04:28:54,389 --> 04:28:51,910

heka is the high definition camera

3534

04:28:56,630 --> 04:28:54,399

assembly that is on the

3535

04:29:01,429 --> 04:28:56,640

top of shane kimbrough's spacesuit the

3536

04:29:04,950 --> 04:29:02,870

teams here in mission control houston

3537

04:29:11,910 --> 04:29:04,960

will verify the feed is coming from

3538

04:29:23,990 --> 04:29:13,670

yeah it looks really good thank you and

3539

04:29:27,910 --> 04:29:26,149

you said 30 minutes so we have time

3540

04:29:28,950 --> 04:29:27,920

we're going to try to fix a little bit

3541

04:29:32,149 --> 04:29:28,960

your

3542

04:29:56,389 --> 04:29:32,159

side now okay

3543

04:30:01,189 --> 04:29:59,030

and we still have 25 minutes of that

3544

04:30:04,550 --> 04:30:01,199

weight for a checkout on our side so

3545

04:30:09,510 --> 04:30:05,510

okay

3546

04:30:12,389 --> 04:30:09,520

uh do you want us to relocate the apfrom

3547

04:30:14,469 --> 04:30:12,399

it goes 25 minutes

3548

04:30:16,550 --> 04:30:14,479

we're checking on it in the meantime

3549

04:30:20,790 --> 04:30:16,560

glove inspection hop check and gauntlet

3550

04:30:23,910 --> 04:30:22,950

all right for everyone

3551
04:30:26,229 --> 04:30:23,920
let's

3552
04:30:39,269 --> 04:30:26,239
take a close

3553
04:30:54,870 --> 04:30:41,590
good checks on ev2 i'll let you know

3554
04:30:54,880 --> 04:31:13,590
takes a little bit more time

3555
04:31:13,600 --> 04:31:49,189
display

3556
04:31:54,149 --> 04:31:51,670
all right you too

3557
04:31:55,990 --> 04:31:54,159
looking at uh the check that we need to

3558
04:31:58,630 --> 04:31:56,000
do here on the ground we might have that

3559
04:32:01,670 --> 04:31:58,640
complete as early as the end of this

3560
04:32:04,070 --> 04:32:01,680
eclipse which is around 11 minutes away

3561
04:32:04,950 --> 04:32:04,080
so best case scenario we're ready to

3562
04:32:07,670 --> 04:32:04,960
move

3563
04:32:09,590 --> 04:32:07,680

with our steps in 11 minutes so we do

3564

04:32:11,030 --> 04:32:09,600

not want to commit you to moving those

3565

04:32:12,950 --> 04:32:11,040

apfrs

3566

04:32:14,309 --> 04:32:12,960

we can help we can have you get in

3567

04:32:15,110 --> 04:32:14,319

position

3568

04:32:26,229 --> 04:32:15,120

for

3569

04:32:26,239 --> 04:32:29,750

that sounds good

3570

04:32:34,469 --> 04:32:32,469

we have two good uh high definition

3571

04:32:36,870 --> 04:32:34,479

camera views from each of the astronauts

3572

04:32:39,030 --> 04:32:36,880

that troubleshooting step on shane

3573

04:32:41,030 --> 04:32:39,040

kimbrough's helmet camera worked so we

3574

04:32:43,349 --> 04:32:41,040

got both of those the next steps will be

3575

04:32:45,510 --> 04:32:43,359

to get in position uh during this

3576
04:32:47,429 --> 04:32:45,520
orbital night time for the deployment

3577
04:32:48,710 --> 04:32:47,439
sequence there are two bolts that are

3578
04:32:52,790 --> 04:32:48,720
keeping the

3579
04:32:54,950 --> 04:32:52,800
irosa solar array blankets

3580
04:32:57,189 --> 04:32:54,960
together these two

3581
04:32:59,910 --> 04:32:57,199
launch restraint bolts will help to

3582
04:33:02,710 --> 04:32:59,920
unfurl and deploy the uh

3583
04:33:04,709 --> 04:33:02,720
irosa solar arrays they stretch out 15

3584
04:33:06,629 --> 04:33:04,719
feet wide and they'll deploy

3585
04:33:09,109 --> 04:33:06,639
to 60 feet

3586
04:33:11,590 --> 04:33:09,119
once those bolts are

3587
04:33:13,670 --> 04:33:11,600
undone the whole sequence will take

3588
04:33:15,109 --> 04:33:13,680

about six minutes and we'll be able to

3589

04:33:17,269 --> 04:33:15,119

see a real time

3590

04:33:20,949 --> 04:33:17,279

from the helmet cameras of each of the

3591

04:33:25,269 --> 04:33:22,869

once the deployment sequence is

3592

04:33:27,910 --> 04:33:25,279

completed they'll use

3593

04:33:30,869 --> 04:33:27,920

the pistol grip tool to secure some

3594

04:33:32,470 --> 04:33:30,879

tensioner bolts keep those solar arrays

3595

04:33:35,029 --> 04:33:32,480

uh

3596

04:33:38,629 --> 04:33:35,039

secured in the fully deployed position

3597

04:33:43,029 --> 04:33:40,629

and that will complete the deployment

3598

04:33:46,709 --> 04:33:43,039

the installation and deployment of the

3599

04:34:14,949 --> 04:33:46,719

first brand new irosa solar array on the

3600

04:34:14,959 --> 04:34:32,150

okay

3601
04:34:32,160 --> 04:34:38,310
fcr9 and r10 uh

3602
04:34:38,320 --> 04:35:05,750
copy tomorrow

3603
04:35:10,949 --> 04:35:06,830
i can feel

3604
04:35:10,959 --> 04:35:14,551
oh

3605
04:35:14,561 --> 04:35:23,910
yeah so it's forward

3606
04:35:29,910 --> 04:35:27,109
um not quite yet

3607
04:35:33,269 --> 04:35:29,920
yeah i just don't like that

3608
04:35:33,279 --> 04:36:17,750
yep i'm good now

3609
04:36:21,830 --> 04:36:19,750
you're getting a live look at the high

3610
04:36:24,949 --> 04:36:21,840
definition camera view from

3611
04:36:27,189 --> 04:36:24,959
the helmet camera of tomate

3612
04:36:33,590 --> 04:36:27,199
in this position prior to us being able

3613
04:36:37,349 --> 04:36:35,269

the astronauts are currently waiting for

3614

04:36:41,189 --> 04:36:37,359

an orbital daytime before beginning a

3615

04:36:44,150 --> 04:36:41,199

test make sure that the irosa is secure

3616

04:36:47,429 --> 04:36:44,160

uh and that all systems are go before

3617

04:36:49,670 --> 04:36:47,439

tomapeske begins using the pistol grip

3618

04:36:51,910 --> 04:36:49,680

tool this is the space drill there are

3619

04:36:54,709 --> 04:36:51,920

two bolts that are securing the blankets

3620

04:36:57,429 --> 04:36:54,719

in a rolled up position by undoing them

3621

04:36:58,629 --> 04:36:57,439

the solar arrays will deploy and go out

3622

04:37:00,709 --> 04:36:58,639

60 feet

3623

04:37:02,869 --> 04:37:00,719

that whole sequence will take about six

3624

04:37:05,029 --> 04:37:02,879

minutes and then they'll use uh the

3625

04:37:07,590 --> 04:37:05,039

pistol grip tool once again pesquet will

3626

04:37:10,070 --> 04:37:07,600

have the tool in his hand

3627

04:37:11,590 --> 04:37:10,080

to secure tensioner bolts and keep them

3628

04:37:12,789 --> 04:37:11,600

tight and in place once they're fully

3629

04:37:14,551 --> 04:37:12,799

deployed

3630

04:37:16,551 --> 04:37:14,561

but again they're just standing by in

3631

04:37:17,750 --> 04:37:16,561

position ready to go

3632

04:37:38,789 --> 04:37:17,760

once the

3633

04:37:42,949 --> 04:37:40,070

can you see my

3634

04:37:44,869 --> 04:37:42,959

helmet cam reviews

3635

04:37:48,070 --> 04:37:44,879

hey firm shane we can see your your

3636

04:37:48,080 --> 04:37:52,470

okay hopefully that looks all right

3637

04:37:56,949 --> 04:37:54,310

we can't give you too many words on that

3638

04:37:59,670 --> 04:37:56,959

because um because of the light

3639

04:38:00,869 --> 04:37:59,680

situation but um we'll be able to give

3640

04:38:02,390 --> 04:38:00,879

you more once

3641

04:38:06,230 --> 04:38:02,400

once we're in insulation for now it

3642

04:38:06,240 --> 04:38:27,269

thank you

3643

04:38:31,590 --> 04:38:29,269

while the astronauts wait uh for the

3644

04:38:33,429 --> 04:38:31,600

next steps to perform that test before

3645

04:38:34,949 --> 04:38:33,439

deploying the solar arrays we'll

3646

04:38:36,830 --> 04:38:34,959

continue to take questions using the

3647

04:38:39,510 --> 04:38:36,840

hashtag ask

3648

04:38:42,629 --> 04:38:39,520

nasa this next one comes from michael

3649

04:38:44,310 --> 04:38:42,639

who's asking about the procedures uh

3650

04:38:45,830 --> 04:38:44,320

what about the procedures that they

3651

04:38:48,470 --> 04:38:45,840

follow during the spacewalk are they

3652

04:38:50,310 --> 04:38:48,480

memorized or laid vocally from earth

3653

04:38:52,310 --> 04:38:50,320

displayed on the sleeve or a heads-up

3654

04:38:54,869 --> 04:38:52,320

display

3655

04:38:58,310 --> 04:38:54,879

you can sort of see it on the uh left

3656

04:39:00,310 --> 04:38:58,320

wrist of tomate from this helmet view

3657

04:39:01,670 --> 04:39:00,320

there are a few procedures critical

3658

04:39:03,349 --> 04:39:01,680

procedures that they can flip through

3659

04:39:04,310 --> 04:39:03,359

and read at any time it's a little

3660

04:39:06,629 --> 04:39:04,320

booklet

3661

04:39:08,551 --> 04:39:06,639

that contains some of the procedures

3662

04:39:10,070 --> 04:39:08,561

most of the procedures though are

3663

04:39:12,869 --> 04:39:10,080

studied ahead of time so they're very

3664

04:39:14,949 --> 04:39:12,879

familiar uh with the procedures

3665

04:39:16,470 --> 04:39:14,959

in addition there is a dedicated person

3666

04:39:18,310 --> 04:39:16,480

here in mission control houston called

3667

04:39:21,750 --> 04:39:18,320

the ground iv

3668

04:39:23,990 --> 04:39:21,760

in this case it is jenny seidi

3669

04:39:26,390 --> 04:39:24,000

she is the one that is communicating

3670

04:39:29,269 --> 04:39:26,400

from here in mission control houston uh

3671

04:39:31,109 --> 04:39:29,279

gathering the uh knowledge from the eva

3672

04:39:33,750 --> 04:39:31,119

officers extra vehicular activity

3673

04:39:36,470 --> 04:39:33,760

officers and the support teams here and

3674

04:39:38,550 --> 04:39:36,480

relaying them to the crew

3675

04:39:40,550 --> 04:39:38,560

she's behind uh on the left of your

3676
04:39:43,430 --> 04:39:40,560
screen there flight director ron spencer

3677
04:39:45,510 --> 04:39:43,440
who's leading today's teams

3678
04:39:47,750 --> 04:39:45,520
in the back there uh keith johnson the

3679
04:39:49,590 --> 04:39:47,760
lead eva officer knowing the intricate

3680
04:39:52,070 --> 04:39:49,600
procedures and working with his teams in

3681
04:39:53,750 --> 04:39:52,080
the back room uh knowing the uh

3682
04:39:55,670 --> 04:39:53,760
procedures forwards backwards and of

3683
04:39:57,670 --> 04:39:55,680
course having a few crib sheets right

3684
04:39:58,788 --> 04:39:57,680
there in the center jenny seidi is the

3685
04:40:00,708 --> 04:39:58,798
voice you're hearing from mission

3686
04:40:02,470 --> 04:40:00,718
control houston her job is to

3687
04:40:03,990 --> 04:40:02,480
communicate with the two spacewalking

3688
04:40:05,830 --> 04:40:04,000

astronauts on the outside of the

3689

04:40:08,070 --> 04:40:05,840

international space station canadian

3690

04:40:11,190 --> 04:40:08,080

space agency astronaut

3691

04:40:13,270 --> 04:40:11,200

to her right our left drew feustel nasa

3692

04:40:15,670 --> 04:40:13,280

astronaut it's his job to communicate

3693

04:40:25,510 --> 04:40:15,680

with the astronauts on the inside of the

3694

04:40:25,520 --> 04:40:31,270

three more minutes

3695

04:40:35,270 --> 04:40:33,270

astronauts continuing to hold position

3696

04:40:37,270 --> 04:40:35,280

until that sunrise in the meantime we'll

3697

04:40:40,070 --> 04:40:37,280

continue to answer some questions this

3698

04:40:42,708 --> 04:40:40,080

next one comes from raj on twitter who's

3699

04:40:45,030 --> 04:40:42,718

asking will the rosa type of solar array

3700

04:40:47,590 --> 04:40:45,040

be used in future spacecraft and space

3701

04:40:49,350 --> 04:40:47,600

stations the answer is yes

3702

04:40:52,708 --> 04:40:49,360

these particular solar arrays are called

3703

04:40:55,270 --> 04:40:52,718

irosas iss rollout solar arrays they're

3704

04:40:56,708 --> 04:40:55,280

about 15 feet wide and they were folded

3705

04:40:59,670 --> 04:40:56,718

in half when they were delivered to the

3706

04:41:01,990 --> 04:40:59,680

international space station on a spacex

3707

04:41:03,670 --> 04:41:02,000

crs 22 dragon

3708

04:41:06,150 --> 04:41:03,680

that fit very nicely in the

3709

04:41:08,230 --> 04:41:06,160

unpressurized trunk of the dragon for

3710

04:41:10,470 --> 04:41:08,240

the gateway they will also use roasted

3711

04:41:13,190 --> 04:41:10,480

technology but it will be about twice as

3712

04:41:16,628 --> 04:41:13,200

wide at about 32 feet and that will

3713

04:41:19,110 --> 04:41:16,638

provide about 30 kilowatts of power

3714

04:41:21,830 --> 04:41:19,120

each there are two designated rosa solar

3715

04:41:23,830 --> 04:41:21,840

arrays on the gateway planned for the

3716

04:41:25,990 --> 04:41:23,840

power and propulsion element of the

3717

04:41:28,628 --> 04:41:26,000

gateway and they'll use those solar

3718

04:41:30,868 --> 04:41:28,638

arrays to draw power as it

3719

04:41:42,628 --> 04:41:30,878

orbits in a near rectilinear halo orbit

3720

04:41:46,550 --> 04:41:44,230

these are great questions coming in

3721

04:41:48,310 --> 04:41:46,560

using the hashtag ask nasa as we await

3722

04:41:50,550 --> 04:41:48,320

for an orbital sunrise and the

3723

04:41:51,670 --> 04:41:50,560

astronauts do the same this next one

3724

04:41:54,070 --> 04:41:51,680

on twitter

3725

04:41:55,830 --> 04:41:54,080

asks do astronauts practice these

3726

04:41:58,230 --> 04:41:55,840

spacewalks on earth

3727

04:42:00,628 --> 04:41:58,240

the answer is yes part of becoming an

3728

04:42:04,070 --> 04:42:00,638

international space station

3729

04:42:05,270 --> 04:42:04,080

astronaut is to get basic space walking

3730

04:42:06,390 --> 04:42:05,280

training

3731

04:42:08,470 --> 04:42:06,400

with the

3732

04:42:10,230 --> 04:42:08,480

amount of

3733

04:42:11,990 --> 04:42:10,240

spacewalks and maintenance

3734

04:42:14,470 --> 04:42:12,000

that's needed on board the international

3735

04:42:16,470 --> 04:42:14,480

space station what used to be dedicated

3736

04:42:19,350 --> 04:42:16,480

spacewalks for very particular

3737

04:42:21,590 --> 04:42:19,360

procedures is now more of a basic

3738

04:42:22,948 --> 04:42:21,600

overview of how to perform spacewalks

3739

04:42:25,030 --> 04:42:22,958

how to move

3740

04:42:26,150 --> 04:42:25,040

and how to understand the procedures and

3741

04:42:28,150 --> 04:42:26,160

understand the layout of the

3742

04:42:30,230 --> 04:42:28,160

international space station there is a

3743

04:42:32,150 --> 04:42:30,240

large pool located just off the center

3744

04:42:33,670 --> 04:42:32,160

here at the johnson space center called

3745

04:42:35,910 --> 04:42:33,680

the neutral buoyancy laboratory there

3746

04:42:37,750 --> 04:42:35,920

are full-scale mock-ups of the modules

3747

04:42:39,510 --> 04:42:37,760

of the international space station where

3748

04:42:41,350 --> 04:42:39,520

astronauts will go in

3749

04:42:43,510 --> 04:42:41,360

and become neutrally a buoyant using a

3750

04:42:45,350 --> 04:42:43,520

series of weights and floats

3751

04:42:47,190 --> 04:42:45,360

that are dependent on each of their

3752

04:42:50,230 --> 04:42:47,200

bodies and they'll practice the

3753

04:42:53,350 --> 04:42:50,240

procedures and understand what it's like

3754

04:42:55,670 --> 04:42:53,360

in space it is the best analog

3755

04:42:57,350 --> 04:42:55,680

for practicing some of the space walking

3756

04:42:59,430 --> 04:42:57,360

procedures that are needed

3757

04:43:02,390 --> 04:42:59,440

some of them uh some of the runs that

3758

04:43:04,070 --> 04:43:02,400

are done are specific to spacewalks in

3759

04:43:06,470 --> 04:43:04,080

fact there were some runs that were done

3760

04:43:08,628 --> 04:43:06,480

specifically for practicing the

3761

04:43:11,110 --> 04:43:08,638

techniques needed to install these roll

3762

04:43:13,590 --> 04:43:11,120

out solar arrays here you can see an

3763

04:43:15,910 --> 04:43:13,600

astronaut performing some practice

3764

04:43:17,990 --> 04:43:15,920

procedures holding on to handrails and

3765

04:43:19,270 --> 04:43:18,000

working with a crew lock bag that's

3766

04:43:20,788 --> 04:43:19,280

their toolbox

3767

04:43:24,550 --> 04:43:20,798

and getting familiar with the needed

3768

04:43:24,560 --> 04:45:18,868

two minutes until installation

3769

04:45:23,190 --> 04:45:21,110

and with an orbital sunrise as the

3770

04:45:25,510 --> 04:45:23,200

international space station flies over

3771

04:45:27,590 --> 04:45:25,520

the middle of the pacific ocean heading

3772

04:45:30,550 --> 04:45:27,600

towards the western coast of the united

3773

04:45:37,030 --> 04:45:33,510

the astronauts in position ready to

3774

04:45:39,270 --> 04:45:37,040

await the next set of procedures to test

3775

04:45:41,430 --> 04:45:39,280

the irosa make sure it's in a good

3776

04:46:34,150 --> 04:45:41,440

configuration before beginning the

3777

04:46:37,590 --> 04:46:35,990

now that we're in insulation we can

3778

04:46:39,910 --> 04:46:37,600

better see

3779

04:46:41,830 --> 04:46:39,920

your viewpoint chain and we want to get

3780

04:46:43,510 --> 04:46:41,840

a good view of the magnets on the end of

3781

04:46:45,430 --> 04:46:43,520

our rosa so we're going to have you yaw

3782

04:46:49,030 --> 04:46:45,440

to your right if you can manage that in

3783

04:46:51,510 --> 04:46:49,040

your current body position

3784

04:46:57,910 --> 04:46:51,520

okay give me a second i'll do that a

3785

04:47:03,750 --> 04:47:01,030

you can know your synthesis you can try

3786

04:47:06,150 --> 04:47:03,760

to grab it from the front

3787

04:47:12,310 --> 04:47:06,160

and all you're that far okay

3788

04:47:16,948 --> 04:47:13,670

jenny i can barely see it i don't know

3789

04:47:19,350 --> 04:47:16,958

if you can see it on my camera

3790

04:47:21,430 --> 04:47:19,360

not quite just at the end of it

3791

04:47:22,868 --> 04:47:21,440

but we understand that you're

3792

04:47:24,390 --> 04:47:22,878

you're kind of constrained in how far

3793

04:47:29,030 --> 04:47:24,400

you can go that's really good if you can

3794

04:47:34,150 --> 04:47:30,948

um i'll that back to that once we get

3795

04:47:51,430 --> 04:47:34,160

there but oh relax a bit for now

3796

04:47:57,030 --> 04:47:53,350

all right good news you too we have the

3797

04:47:59,990 --> 04:47:57,040

data that we need to go for deploy

3798

04:48:07,700 --> 04:48:00,000

so with shane in position tomah you can

3799

04:48:07,710 --> 04:48:15,590

[Music]

3800

04:48:19,270 --> 04:48:17,510

bravo seven

3801

04:48:36,230 --> 04:48:19,280

counter two

3802

04:48:41,190 --> 04:48:38,830

bravo 7 counter 2 good

3803

04:48:44,150 --> 04:48:41,200

words and with that to my pesky we'll

3804

04:48:46,470 --> 04:48:44,160

use this pistol grip tool to undo two

3805

04:48:49,990 --> 04:48:46,480

launch restraint bolts

3806

04:48:51,670 --> 04:48:50,000

each will deploy the irosa

3807

04:48:58,250 --> 04:48:51,680

it'll take about six minutes to fully

3808

04:48:58,260 --> 04:49:07,270

[Music]

3809

04:49:12,230 --> 04:49:09,350

copy starting on r9

3810

04:49:29,990 --> 04:49:12,240

17 to 20 turns a white line will appear

3811

04:49:33,830 --> 04:49:31,110

okay

3812

04:49:37,190 --> 04:49:33,840

now we're talking

3813

04:49:37,200 --> 04:50:04,320

17 to 20.

3814

04:50:04,330 --> 04:50:09,110

[Music]

3815

04:50:13,830 --> 04:50:11,670

copy 17 turns and you see a white line

3816

04:50:16,310 --> 04:50:13,840

r9 is fully released

3817

04:50:19,990 --> 04:50:16,320

we'll get shane into position

3818

04:50:21,670 --> 04:50:20,000

again uh yawning to his right to give us

3819

04:50:23,430 --> 04:50:21,680

a view of the magnets and you can start

3820

04:50:25,750 --> 04:50:23,440

on r10

3821

04:50:27,190 --> 04:50:25,760

17 to 20 turns the white line will

3822

04:50:29,430 --> 04:50:27,200

appear when released

3823

04:50:30,470 --> 04:50:29,440

and then we expect deployment which

3824

04:50:33,990 --> 04:50:30,480

should take

3825

04:50:57,750 --> 04:50:35,110

okay

3826
04:51:25,990 --> 04:51:00,470
pesky now driving the final bolt needed

3827
04:51:26,000 --> 04:51:29,190
jenny

3828
04:51:29,200 --> 04:51:35,990
keep going continue

3829
04:51:36,000 --> 04:51:53,750
much

3830
04:51:58,310 --> 04:51:56,788
yes thirty three zero turns in the vault

3831
04:52:12,788 --> 04:51:58,320
not sucked out i don't share green

3832
04:52:18,230 --> 04:52:15,510
can we confirm again white lines appear

3833
04:52:21,350 --> 04:52:18,240
on both and both have popped out and are

3834
04:52:24,150 --> 04:52:21,360
away oh no no no standard no no

3835
04:52:26,150 --> 04:52:24,160
come back thirteen turns no white line

3836
04:52:27,510 --> 04:52:26,160
vote not for that

3837
04:52:39,190 --> 04:52:27,520
on r10

3838
04:52:42,788 --> 04:52:41,190

there is no wi-fi

3839

04:52:43,910 --> 04:52:42,798

okay we're going to have you continue

3840

04:53:30,948 --> 04:52:43,920

releasing

3841

04:53:56,230 --> 04:53:33,510

solar array deployment has begun

3842

04:53:59,910 --> 04:53:57,670

from the helmet camera of shane

3843

04:54:02,390 --> 04:53:59,920

kimbrough you can start to see

3844

04:54:04,628 --> 04:54:02,400

that solar array unfurl the blankets

3845

04:54:06,470 --> 04:54:04,638

becoming clearer as it makes its way up

3846

04:54:08,788 --> 04:54:06,480

the full deployment sequence takes about

3847

04:54:10,550 --> 04:54:08,798

six minutes

3848

04:54:12,628 --> 04:54:10,560

we can see a very good view of those

3849

04:54:14,708 --> 04:54:12,638

magnets in your helmet cam tomorrow we

3850

04:54:17,430 --> 04:54:14,718

are going to have you move to the right

3851

04:54:20,070 --> 04:54:17,440

side of the mod kit

3852

04:54:24,470 --> 04:54:20,080

to get in a similar position viewing our

3853

04:54:32,230 --> 04:54:26,948

it should work

3854

04:54:37,270 --> 04:54:35,270

the first of the six planned irosa

3855

04:54:38,948 --> 04:54:37,280

new solar arrays to augment the power

3856

04:54:41,670 --> 04:54:38,958

systems of the international space

3857

04:54:43,750 --> 04:54:41,680

station started deploying at 10 24 am

3858

04:54:46,470 --> 04:54:43,760

central time the international space

3859

04:54:48,788 --> 04:54:46,480

station was 261 statute miles over the

3860

04:54:52,390 --> 04:54:48,798

north pacific ocean just west off the

3861

04:54:56,070 --> 04:54:54,070

see the magnets

3862

04:54:58,150 --> 04:54:56,080

the first four

3863

04:55:01,510 --> 04:54:58,160

aim assist is snapping together as we

3864

04:55:02,868 --> 04:55:01,520

speaking yeah this father is not

3865

04:55:04,708 --> 04:55:02,878

good magnet

3866

04:55:08,230 --> 04:55:04,718

copy we see that in your helmet view

3867

04:55:08,240 --> 04:56:14,070

it is beautiful

3868

04:56:20,550 --> 04:56:17,270

again the irosa or the iss rollout solar

3869

04:56:22,948 --> 04:56:20,560

array is about 15 feet wide

3870

04:56:25,430 --> 04:56:22,958

and 60 feet long the deployment sequence

3871

04:56:28,948 --> 04:56:25,440

takes about six minutes it'll be some

3872

04:56:30,948 --> 04:56:28,958

time until the solar array uh the stolen

3873

04:56:34,830 --> 04:56:30,958

arrays themselves the blankets start

3874

04:56:37,590 --> 04:56:34,840

drawing in power to confirm a good power

3875

04:56:40,788 --> 04:56:37,600

draw in the meantime after the

3876

04:56:45,590 --> 04:56:40,798

deployment sequence is complete

3877

04:56:46,708 --> 04:56:45,600

pesquet has uh a final task to secure

3878

04:56:48,868 --> 04:56:46,718

the

3879

04:56:54,628 --> 04:56:48,878

u2 30 seconds to hand over we're going

3880

04:56:54,638 --> 04:57:02,948

enjoy your view

3881

04:57:09,350 --> 04:57:06,628

about halfway done with the deployment

3882

04:57:10,230 --> 04:57:09,360

the solar cells will draw power over

3883

04:57:11,830 --> 04:57:10,240

time

3884

04:57:14,788 --> 04:57:11,840

and will later be able to confirm that

3885

04:57:17,270 --> 04:57:14,798

power is being drawn from the

3886

04:57:21,270 --> 04:57:17,280

irosa

3887

04:57:23,110 --> 04:57:21,280

pesquet will hold his position uh right

3888

04:57:24,948 --> 04:57:23,120

in front of a series of other bolts

3889

04:57:28,470 --> 04:57:24,958

called tensioner bolts

3890

04:57:30,070 --> 04:57:28,480

once the uh irosas are fully deployed at

3891

04:57:32,070 --> 04:57:30,080

60 feet

3892

04:57:33,910 --> 04:57:32,080

he'll use his pistol grip tool or his

3893

04:57:40,470 --> 04:57:33,920

space drill to secure those tensioner

3894

04:57:45,750 --> 04:57:42,550

that will be the last of the tasks on

3895

04:57:48,070 --> 04:57:45,760

the 2b power channel next will be clean

3896

04:57:51,670 --> 04:57:48,080

up and moving some of their equipment

3897

04:57:54,230 --> 04:57:51,680

over to the 4b side

3898

04:57:56,230 --> 04:57:54,240

again this is the first of six plant

3899

04:57:57,750 --> 04:57:56,240

irosas that will augment the power

3900

04:58:00,550 --> 04:57:57,760

supply of the international space

3901
04:58:03,110 --> 04:58:00,560
station continuing scientific research

3902
04:58:04,788 --> 04:58:03,120
and technology development aboard the

3903
04:58:06,070 --> 04:58:04,798
international space station for years to

3904
04:58:08,150 --> 04:58:06,080
come

3905
04:58:10,868 --> 04:58:08,160
the 2b power channel provides critical

3906
04:58:13,670 --> 04:58:10,878
power to a lot of important scientific

3907
04:58:14,948 --> 04:58:13,680
experiments downstream the 4b channel

3908
04:58:16,708 --> 04:58:14,958
will be next

3909
04:58:20,708 --> 04:58:16,718
there's a modification kit already

3910
04:58:22,948 --> 04:58:20,718
installed on the mast canister where the

3911
04:58:28,948 --> 04:58:22,958
new irosa which is currently at the end

3912
04:58:33,830 --> 04:58:31,510
that will be moved uh over on uh

3913
04:58:36,628 --> 04:58:33,840

spacewalk now scheduled for next friday

3914

04:58:38,550 --> 04:58:36,638

the 25th

3915

04:58:40,310 --> 04:58:38,560

spacewalker's remaining tasks after

3916

04:58:42,390 --> 04:58:40,320

securing the 2b channel will be to

3917

04:58:45,030 --> 04:58:42,400

prepare the 4b channel

3918

04:58:47,590 --> 04:58:45,040

and the work site necessary for moving

3919

04:58:49,190 --> 04:58:47,600

the new solar array over to

3920

04:59:08,070 --> 04:58:49,200

that new

3921

04:59:13,350 --> 04:59:10,230

irosa continuing to deploy as the

3922

04:59:24,150 --> 04:59:13,360

station flies 262 statute miles right

3923

04:59:35,510 --> 04:59:26,868

yeah nice snowy mountains

3924

04:59:35,520 --> 04:59:57,830

oh we have no idea

3925

04:59:57,840 --> 05:00:03,030

how are you both doing in that position

3926

05:00:08,150 --> 05:00:05,110

i'm doing good i think my position is

3927

05:00:11,670 --> 05:00:08,160

much more comfortable than she

3928

05:00:11,680 --> 05:00:42,390

copy

3929

05:00:48,390 --> 05:00:43,910

danny can you tell us which part of the

3930

05:00:51,350 --> 05:00:49,830

uh i can

3931

05:00:52,788 --> 05:00:51,360

at least give you this shane we have

3932

05:00:54,310 --> 05:00:52,798

what we need from your view so you can

3933

05:00:55,670 --> 05:00:54,320

relax and get in a more comfortable

3934

05:00:57,190 --> 05:00:55,680

position

3935

05:01:02,230 --> 05:00:57,200

tama will keep you

3936

05:01:02,240 --> 05:01:04,868

thank you

3937

05:01:10,390 --> 05:01:06,708

you just always know that what do you

3938

05:01:10,400 --> 05:01:13,990

i knew it

3939

05:01:18,708 --> 05:01:16,868

thank you jenny you're very shooting

3940

05:01:21,110 --> 05:01:18,718

thanks for asking drew feustel's on

3941

05:01:30,230 --> 05:01:21,120

console with me as you know as well so

3942

05:01:33,590 --> 05:01:32,070

great views of the rocky mountains in

3943

05:01:36,628 --> 05:01:33,600

the background as the international

3944

05:01:38,390 --> 05:01:36,638

space station flies over canada

3945

05:01:40,550 --> 05:01:38,400

jenny seide

3946

05:01:42,470 --> 05:01:40,560

the ground iv here in mission control

3947

05:01:45,110 --> 05:01:42,480

houston a canadian space agency

3948

05:01:47,430 --> 05:01:45,120

astronaut

3949

05:01:49,590 --> 05:01:47,440

working next to drew feustel nasa

3950

05:03:46,310 --> 05:01:49,600

astronaut and a dual citizenship with

3951
05:03:49,350 --> 05:03:48,390
all right good news you two you probably

3952
05:03:54,550 --> 05:03:49,360
can see

3953
05:03:57,030 --> 05:03:54,560
full and good deploy of that solar array

3954
05:03:59,510 --> 05:03:57,040
so well done both of you we're going to

3955
05:04:01,750 --> 05:03:59,520
move on to blanket tensioning bolts so

3956
05:04:14,470 --> 05:04:01,760
that has toma on the inboard side at the

3957
05:04:20,390 --> 05:04:16,150
likewise and i agree that was great to

3958
05:04:20,400 --> 05:04:27,510
okay

3959
05:04:32,868 --> 05:04:30,230
confirmed good deployment of the first

3960
05:04:35,910 --> 05:04:32,878
irosa the new solar array that is part

3961
05:04:37,670 --> 05:04:35,920
of the plan to augment the power systems

3962
05:04:39,670 --> 05:04:37,680
on board the international space station

3963
05:04:41,270 --> 05:04:39,680

that deployment took about 10 minutes

3964

05:04:42,628 --> 05:04:41,280

but we did get confirmation that the

3965

05:04:48,310 --> 05:04:42,638

deployment

3966

05:04:54,550 --> 05:04:52,150

will finish up the job by um

3967

05:04:56,788 --> 05:04:54,560

securing two tension bolts uh that will

3968

05:05:06,150 --> 05:04:56,798

secure the irosa in its deployed

3969

05:05:12,030 --> 05:05:07,830

and tomah confirmed you can start with

3970

05:05:18,230 --> 05:05:14,470

settings with r12

3971

05:05:22,230 --> 05:05:20,948

i'm ready for setting

3972

05:05:48,390 --> 05:05:22,240

alpha one

3973

05:05:53,430 --> 05:05:50,628

okay also one

3974

05:05:56,628 --> 05:05:53,440

answer two

3975

05:05:59,350 --> 05:05:56,638

good words

3976

05:06:00,948 --> 05:05:59,360

you'll be releasing r12 five to six

3977

05:06:11,990 --> 05:06:00,958

turns and the bolt will spring out when

3978

05:06:12,000 --> 05:06:33,590

thanks

3979

05:06:33,600 --> 05:06:57,990

let's go

3980

05:07:02,230 --> 05:07:00,310

the alpha one counter two five to six

3981

05:07:28,150 --> 05:07:02,240

pairs

3982

05:07:31,670 --> 05:07:29,350

expected

3983

05:07:34,170 --> 05:07:31,680

i can confirm the release

3984

05:07:39,190 --> 05:07:34,180

mechanism like

3985

05:07:55,910 --> 05:07:39,200

[Music]

3986

05:08:00,070 --> 05:07:57,830

flight controllers confirmed that the

3987

05:08:03,750 --> 05:08:00,080

first tensioner bolts

3988

05:08:07,270 --> 05:08:03,760

looks good biscay has one more to go to

3989

05:08:08,230 --> 05:08:07,280

fully secure the deployed irosa

3990

05:08:10,708 --> 05:08:08,240

first thing

3991

05:08:13,350 --> 05:08:10,718

when you're done with this is that

3992

05:08:27,350 --> 05:08:13,360

right here

3993

05:08:27,360 --> 05:08:34,150

in freddie 11 jenny

3994

05:08:40,708 --> 05:08:36,708

for r11 you have the same setting alpha

3995

05:08:50,788 --> 05:08:42,708

so one character

3996

05:08:50,798 --> 05:08:59,350

stopped out

3997

05:09:04,390 --> 05:09:01,750

and i confirmed visually

3998

05:09:07,670 --> 05:09:04,400

and shin mechanism is released

3999

05:09:08,788 --> 05:09:07,680

on the r11

4000

05:09:11,830 --> 05:09:08,798

copy

4001
05:09:13,030 --> 05:09:11,840
well done that's our 11 confirmed

4002
05:09:15,510 --> 05:09:13,040
release

4003
05:09:18,788 --> 05:09:15,520
we are moving to clean up steps

4004
05:09:20,470 --> 05:09:18,798
so you can stow your pgt

4005
05:09:22,310 --> 05:09:20,480
shane your first step is to remove the

4006
05:09:25,510 --> 05:09:22,320
square scoop which is on the base of the

4007
05:09:25,520 --> 05:09:51,670
i'm bracket go out of your way

4008
05:09:55,990 --> 05:09:53,910
with that we have two good tensioning

4009
05:09:59,110 --> 05:09:56,000
bolts that are securing the deployed

4010
05:10:01,030 --> 05:09:59,120
irosa on the 2b power channel that does

4011
05:10:03,110 --> 05:10:01,040
it for the 2b power channel now the two

4012
05:10:05,510 --> 05:10:03,120
astronauts will work on cleanup steps

4013
05:10:08,150 --> 05:10:05,520

and start on some procedures to get a

4014

05:10:10,550 --> 05:10:08,160

head start on working on the 4b channel

4015

05:10:12,150 --> 05:10:10,560

there's another irosa on station now

4016

05:10:14,310 --> 05:10:12,160

waiting to be installed on the other

4017

05:10:16,550 --> 05:10:14,320

side of the port 6 truss

4018

05:10:19,670 --> 05:10:16,560

they'll start by cleaning up this work

4019

05:10:24,150 --> 05:10:19,680

site and getting prepared on the 4b side

4020

05:10:26,868 --> 05:10:24,160

and getting some steps of the next irosa

4021

05:10:29,190 --> 05:10:26,878

that will go on the 4b channel unbolted

4022

05:10:31,430 --> 05:10:29,200

uh just a couple steps ahead of actually

4023

05:10:33,110 --> 05:10:31,440

moving it over to the 4b channel on the

4024

05:10:34,830 --> 05:10:33,120

next spacewalk

4025

05:10:41,190 --> 05:10:34,840

now scheduled for the

4026
05:10:44,868 --> 05:10:43,510
i've been moving to my cheerful location

4027
05:10:47,110 --> 05:10:44,878
copy

4028
05:10:49,110 --> 05:10:47,120
and shane when you have the

4029
05:10:51,350 --> 05:10:49,120
escape scoops

4030
05:10:58,150 --> 05:10:51,360
guppy we're going to inventory the crew

4031
05:11:02,150 --> 05:10:59,590
ready

4032
05:11:03,910 --> 05:11:02,160
and as a reminder shane if half of this

4033
05:11:05,830 --> 05:11:03,920
if half of this crew lock bag is set

4034
05:11:07,590 --> 05:11:05,840
aside for contingency and you did not

4035
05:11:10,948 --> 05:11:07,600
open it we do not need to inventory that

4036
05:11:13,910 --> 05:11:12,550
that's what i was wanting to hear thank

4037
05:11:16,150 --> 05:11:13,920
you

4038
05:11:18,628 --> 05:11:16,160

all right so i have a square scoop

4039

05:11:20,310 --> 05:11:18,638

attached to a red i think it's supposed

4040

05:11:21,910 --> 05:11:20,320

to be an internal red but i used one

4041

05:11:23,590 --> 05:11:21,920

that was on the outside but it's in the

4042

05:11:25,270 --> 05:11:23,600

bag

4043

05:11:29,590 --> 05:11:25,280

okay i have a long duration tie down

4044

05:11:36,550 --> 05:11:33,590

i have a cap keeper with four

4045

05:11:39,510 --> 05:11:36,560

mvgl caps

4046

05:11:42,788 --> 05:11:39,520

attached and i have the ams tool with a

4047

05:11:48,788 --> 05:11:42,798

six inch wobble on the end

4048

05:11:54,310 --> 05:11:52,070

uh what else what else you looking for

4049

05:11:57,430 --> 05:11:54,320

on the outside i got an adjustable i

4050

05:12:03,590 --> 05:11:57,440

have a large small red

4051

05:12:03,600 --> 05:12:07,350

checking for you shane

4052

05:12:11,110 --> 05:12:09,910

all right that is a good inventory thank

4053

05:12:13,510 --> 05:12:11,120

you shane

4054

05:12:19,670 --> 05:12:13,520

you can temp stow the crewlock bag on

4055

05:12:19,680 --> 05:12:36,310

okay

4056

05:12:41,590 --> 05:12:38,550

four hours into today's spacewalk the

4057

05:12:43,990 --> 05:12:41,600

first irosa as part of the station's

4058

05:12:45,590 --> 05:12:44,000

augmentation plan to augment the power

4059

05:12:47,350 --> 05:12:45,600

system currently on board the

4060

05:12:48,868 --> 05:12:47,360

international space station has been

4061

05:12:50,310 --> 05:12:48,878

complete

4062

05:12:51,750 --> 05:12:50,320

again the astronauts are just cleaning

4063

05:12:53,110 --> 05:12:51,760

up their work site making sure they have

4064

05:12:55,350 --> 05:12:53,120

all the tools and foot restraints

4065

05:12:57,430 --> 05:12:55,360

necessary before moving over to the next

4066

05:12:59,270 --> 05:12:57,440

work site the 4b channel they'll be

4067

05:13:02,070 --> 05:12:59,280

preparing that channel for the remainder

4068

05:13:04,788 --> 05:13:02,080

of today's spacewalk as much as they can

4069

05:13:07,190 --> 05:13:04,798

until to make sure that that is ready

4070

05:13:08,230 --> 05:13:07,200

for when they go out and install the new

4071

05:13:10,550 --> 05:13:08,240

another

4072

05:13:22,708 --> 05:13:10,560

irosa on the next spacewalk now

4073

05:13:26,310 --> 05:13:25,430

i have a big picture update for both of

4074

05:13:27,990 --> 05:13:26,320

you

4075

05:13:31,590 --> 05:13:28,000

our p-e-t

4076

05:13:34,310 --> 05:13:31,600

is four hours limiting conceivable ev1

4077

05:13:35,830 --> 05:13:34,320

medics seven hours 30 minutes

4078

05:13:39,510 --> 05:13:35,840

and you guys are performing your clean

4079

05:13:42,230 --> 05:13:39,520

up steps and apfr relocates now

4080

05:13:44,708 --> 05:13:42,240

to the four bravo side following that

4081

05:13:47,270 --> 05:13:44,718

we're going to head back to the fse and

4082

05:13:53,830 --> 05:13:47,280

release the upper support beams as a get

4083

05:13:56,948 --> 05:13:54,948

thank you

4084

05:13:58,150 --> 05:13:56,958

and i think my face feather is around my

4085

05:13:59,990 --> 05:13:58,160

back so i'll go back a little bit

4086

05:14:10,868 --> 05:14:00,000

inboard to clear it

4087

05:14:14,390 --> 05:14:11,990

see

4088

05:14:18,070 --> 05:14:14,400

it's the only one left left leg it's

4089

05:14:21,190 --> 05:14:18,080

right between your legs um if you can

4090

05:14:32,070 --> 05:14:21,200

bring your left leg towards your head

4091

05:14:32,080 --> 05:14:38,470

i've got my true rock bag

4092

05:14:41,990 --> 05:14:39,830

did i show you what that means should be

4093

05:14:43,750 --> 05:14:42,000

there did you what were you saying

4094

05:14:44,788 --> 05:14:43,760

let me look again that's why i think i

4095

05:14:46,830 --> 05:14:44,798

get it

4096

05:14:49,990 --> 05:14:46,840

um it's between your

4097

05:14:53,270 --> 05:14:50,000

legs now kick your right leg bring your

4098

05:14:54,708 --> 05:14:53,280

right leg towards your head a little bit

4099

05:14:57,110 --> 05:14:54,718

uh

4100

05:14:57,990 --> 05:14:57,120

um other way

4101

05:14:58,868 --> 05:14:58,000

now

4102

05:14:59,990 --> 05:14:58,878

um

4103

05:15:02,390 --> 05:15:00,000

yeah what you do with your left foot

4104

05:15:05,750 --> 05:15:02,400

there go with your right

4105

05:15:06,788 --> 05:15:05,760

bring it towards you towards your uh

4106

05:15:09,270 --> 05:15:06,798

like that

4107

05:15:11,830 --> 05:15:09,280

probably

4108

05:15:15,270 --> 05:15:11,840

get too short though yeah just

4109

05:15:19,430 --> 05:15:17,030

there you go like that now it comes down

4110

05:15:23,990 --> 05:15:19,440

with your feet both of them

4111

05:15:28,390 --> 05:15:25,750

yeah it's just caught on your right

4112

05:15:30,868 --> 05:15:28,400

knees yeah clear that right right side

4113

05:15:37,110 --> 05:15:30,878

it will clear itself when i go down okay

4114

05:15:45,510 --> 05:15:39,110

transitioning over to the full bravo

4115

05:15:50,708 --> 05:15:47,670

stand by one chain

4116

05:15:53,670 --> 05:15:52,150

all right

4117

05:15:55,830 --> 05:15:53,680

uh yeah i'm not supposed to go to the

4118

05:15:58,470 --> 05:15:55,840

full brother side with my chaser and

4119

05:16:00,550 --> 05:15:58,480

stand by one as well toma they're still

4120

05:16:02,230 --> 05:16:00,560

just talking about that one get ahead to

4121

05:16:03,750 --> 05:16:02,240

check an extra pair of whiffs on the way

4122

05:16:09,270 --> 05:16:03,760

to the relocation

4123

05:16:09,280 --> 05:16:35,030

would you tell me about your location

4124

05:16:35,040 --> 05:16:38,140

um

4125

05:16:38,150 --> 05:16:44,708

[Music]

4126
05:16:49,750 --> 05:16:46,788
yeah um right

4127
05:16:51,940 --> 05:16:49,760
just caught on your right leg right now

4128
05:17:03,510 --> 05:16:51,950
it should come from my left

4129
05:17:07,430 --> 05:17:05,350
if you bring your right knee up i don't

4130
05:17:09,510 --> 05:17:07,440
know you probably can't very much but

4131
05:17:11,270 --> 05:17:09,520
then uh oh you almost had it there there

4132
05:17:12,628 --> 05:17:11,280
you go perfect keep going

4133
05:17:14,550 --> 05:17:12,638
the banana is going to be between my

4134
05:17:15,910 --> 05:17:14,560
legs now it's going to come out right in

4135
05:17:17,590 --> 05:17:15,920
the middle

4136
05:17:20,310 --> 05:17:17,600
nice and between my legs

4137
05:17:26,550 --> 05:17:20,320
and now you're good oh good nice

4138
05:17:32,708 --> 05:17:29,670

hi jimmy what's the word

4139

05:17:34,788 --> 05:17:32,718

thomas you are relocating your apfr to

4140

05:17:36,470 --> 05:17:34,798

the four bravo side as we discussed this

4141

05:17:39,110 --> 05:17:36,480

is the nominal get ahead you're going to

4142

05:17:43,110 --> 05:17:39,120

place your apfr in with 29.

4143

05:17:45,110 --> 05:17:43,120

shane we are going to go have you assess

4144

05:17:46,788 --> 05:17:45,120

one whiff along the way

4145

05:17:50,550 --> 05:17:46,798

to your nominal

4146

05:17:50,560 --> 05:17:56,310

okay

4147

05:17:59,190 --> 05:17:57,910

29

4148

05:18:28,628 --> 05:17:59,200

cross

4149

05:18:32,390 --> 05:18:30,150

jimmy if i'm coming right back to this

4150

05:18:34,708 --> 05:18:32,400

spot where my atf is gonna just trump

4151

05:18:40,390 --> 05:18:34,718

still like we're like badger

4152

05:18:40,400 --> 05:18:43,510

checking

4153

05:18:47,750 --> 05:18:44,830

all

4154

05:18:49,430 --> 05:18:47,760

night you're not coming back here

4155

05:18:58,230 --> 05:18:49,440

yeah my first thought is that you're not

4156

05:19:03,110 --> 05:19:01,510

okay uh disregard my last uh

4157

05:19:04,390 --> 05:19:03,120

shane you are now coming back to this

4158

05:19:08,390 --> 05:19:04,400

site so you will

4159

05:19:09,270 --> 05:19:08,400

bundle the uh crew lock bag with

4160

05:19:11,270 --> 05:19:09,280

the

4161

05:19:14,390 --> 05:19:11,280

apfr and we are not doing your get ahead

4162

05:19:16,150 --> 05:19:14,400

with so we are on the nominal relocation

4163

05:19:19,430 --> 05:19:16,160

so just the translation path that you

4164

05:19:20,150 --> 05:19:19,440

studied and we're relocating that apfr

4165

05:19:24,470 --> 05:19:20,160

to

4166

05:19:24,480 --> 05:19:31,270

okay

4167

05:19:31,280 --> 05:20:06,550

twelve

4168

05:20:10,628 --> 05:20:08,310

from this view you can see kimbrough at

4169

05:20:12,788 --> 05:20:10,638

the very top of your screen that's the

4170

05:20:14,550 --> 05:20:12,798

2b power channel where they just

4171

05:20:17,350 --> 05:20:14,560

completed the installation and

4172

05:20:19,830 --> 05:20:17,360

deployment of the first irosa

4173

05:20:22,390 --> 05:20:19,840

to help augment the station's power

4174

05:20:25,030 --> 05:20:22,400

supply this is the new solar array

4175

05:20:27,190 --> 05:20:25,040

that is also part of the 2b power

4176
05:20:28,230 --> 05:20:27,200
channel in addition to the legacy solar

4177
05:20:30,628 --> 05:20:28,240
arrays

4178
05:20:31,990 --> 05:20:30,638
that are out on the port 6 truss

4179
05:20:34,150 --> 05:20:32,000
on the bottom of your screen you see

4180
05:20:36,310 --> 05:20:34,160
tomah pesquet he's already

4181
05:20:39,190 --> 05:20:36,320
getting some of the

4182
05:20:41,670 --> 05:20:39,200
next work the 4b worksite some of the

4183
05:20:44,070 --> 05:20:41,680
preparations uh

4184
05:20:45,430 --> 05:20:44,080
ready for when the two of them go out

4185
05:20:50,070 --> 05:20:45,440
once again

4186
05:20:52,390 --> 05:20:50,080
next friday to install another irosa

4187
05:20:54,548 --> 05:20:52,400
and that will complete the port side

4188
05:20:55,990 --> 05:20:54,558

uh the port six segment of the

4189

05:20:59,350 --> 05:20:56,000

international space station and the

4190

05:20:59,360 --> 05:21:05,190

is a clocking of

4191

05:21:11,430 --> 05:21:06,788

guppy good twelve twist test check

4192

05:21:15,910 --> 05:21:13,910

locking colors like on black pitch india

4193

05:21:17,830 --> 05:21:15,920

india

4194

05:21:18,628 --> 05:21:17,840

is foxtrot

4195

05:21:21,270 --> 05:21:18,638

and

4196

05:21:23,190 --> 05:21:21,280

radio is 11.

4197

05:21:25,030 --> 05:21:23,200

all right those are good settings let's

4198

05:21:26,788 --> 05:21:25,040

confirm that the pitch knob is popped

4199

05:21:30,708 --> 05:21:26,798

out and then you can translate back to

4200

05:21:35,750 --> 05:21:32,788

it small piece popped out

4201

05:21:38,708 --> 05:21:35,760

i'll go back to retail buy

4202

05:21:44,548 --> 05:21:40,548

hey jenny what's the uh

4203

05:21:48,070 --> 05:21:44,558

pitch for the new aprfront i get up there

4204

05:21:48,080 --> 05:22:39,130

okay it's the same copy

4205

05:22:46,788 --> 05:22:43,110

[Music]

4206

05:22:52,708 --> 05:22:50,390

translate to the four feet

4207

05:22:54,150 --> 05:22:52,718

good words shane that sounds like a good

4208

05:22:55,590 --> 05:22:54,160

config let me know if you need any

4209

05:22:58,628 --> 05:22:55,600

additional words on your translation

4210

05:22:58,638 --> 05:23:12,628

i probably will

4211

05:23:18,150 --> 05:23:15,350

the translation translation path

4212

05:23:20,948 --> 05:23:18,160

is the uh predetermined movement that

4213

05:23:22,390 --> 05:23:20,958

shane kimber will make from the 2b power

4214

05:23:23,910 --> 05:23:22,400

channel where he currently is at the

4215

05:23:26,310 --> 05:23:23,920

very top of your screen

4216

05:23:28,948 --> 05:23:26,320

in the suit with the white stripes or

4217

05:23:31,750 --> 05:23:28,958

the unmarked suit they'll get some words

4218

05:23:33,190 --> 05:23:31,760

from capcom jenny seidi who's been the

4219

05:23:34,470 --> 05:23:33,200

voice here from mission control

4220

05:23:37,190 --> 05:23:34,480

throughout the duration of today's

4221

05:23:38,470 --> 05:23:37,200

spacewalk on the translation path or the

4222

05:23:40,230 --> 05:23:38,480

particular

4223

05:24:06,470 --> 05:23:40,240

path needed for him to get from this

4224

05:24:10,470 --> 05:24:08,390

make my way through the cable bag copy

4225

05:24:12,470 --> 05:24:10,480

tomah sounds good you'll be closing up

4226
05:24:14,708 --> 05:24:12,480
that cable bag and securing the lid with

4227
05:24:22,390 --> 05:24:14,718
the straps and then relocating

4228
05:24:22,400 --> 05:24:26,868
am i going past this radiator then order

4229
05:24:26,878 --> 05:25:29,830
checking

4230
05:25:34,628 --> 05:25:32,548
to work on the bag

4231
05:25:59,030 --> 05:25:34,638
shane you continue translating inboard

4232
05:26:05,110 --> 05:26:01,270
okay

4233
05:26:05,120 --> 05:26:11,990
close it

4234
05:26:12,000 --> 05:26:16,628
meaning i'm at our green hook locations

4235
05:26:16,638 --> 05:26:21,830
puppy shane

4236
05:26:26,310 --> 05:26:24,708
we're tracking you past one a-frame you

4237
05:26:30,868 --> 05:26:26,320
are going to be translating down the

4238
05:26:35,510 --> 05:26:32,548

okay

4239

05:26:37,590 --> 05:26:35,520

let me uh switch my

4240

05:26:39,830 --> 05:26:37,600

other rail is not retracting so let me

4241

05:27:17,590 --> 05:26:39,840

work them out for a second

4242

05:27:17,600 --> 05:27:28,708

uh

4243

05:27:33,110 --> 05:27:30,390

all right is this the a-frame i'm going

4244

05:28:04,548 --> 05:27:35,750

i just imported the green hook

4245

05:28:19,190 --> 05:28:07,030

the bag is closed

4246

05:28:19,200 --> 05:28:37,350

puppy tomah

4247

05:28:41,270 --> 05:28:39,510

5311.

4248

05:28:44,150 --> 05:28:41,280

is that what i start doing here looks

4249

05:28:54,470 --> 05:28:44,160

like i go out for from here

4250

05:28:54,480 --> 05:29:11,920

nothing to hold on to

4251

05:29:11,930 --> 05:29:15,110

[Music]

4252

05:29:24,070 --> 05:29:17,270

on to the cams of the grapple fixture

4253

05:29:24,080 --> 05:30:02,708

another way to reach that thanks

4254

05:30:06,628 --> 05:30:04,310

again the astronauts completed the

4255

05:30:09,270 --> 05:30:06,638

installation and deployment of a new

4256

05:30:11,590 --> 05:30:09,280

solar array on the 2b power channel now

4257

05:30:13,270 --> 05:30:11,600

they are cleaning up that 2b work site

4258

05:30:15,750 --> 05:30:13,280

getting all the tools and equipment

4259

05:30:18,470 --> 05:30:15,760

necessary that was uh that were

4260

05:30:21,270 --> 05:30:18,480

necessary for the tasks today and

4261

05:30:23,830 --> 05:30:21,280

they're moving it over to the 4b side

4262

05:30:27,190 --> 05:30:23,840

this will be the work site for the next

4263

05:30:31,350 --> 05:30:27,200

spacewalk tentatively scheduled for

4264

05:30:38,390 --> 05:30:34,230

you saw kimbrough with a portable foot

4265

05:30:43,430 --> 05:30:41,270

tomorrow has a uh equipment bag in tow

4266

05:30:45,670 --> 05:30:43,440

as well we'll be relocating that to the

4267

05:30:50,628 --> 05:30:45,680

outboard radiator side and i have

4268

05:30:53,590 --> 05:30:52,628

i will need them but phone number when i

4269

05:31:02,230 --> 05:30:53,600

get there

4270

05:31:05,510 --> 05:31:03,270

stripes

4271

05:31:07,510 --> 05:31:05,520

and uh kimbrough the suit with the white

4272

05:31:16,548 --> 05:31:07,520

stripes or the unmarked suit kimbrough

4273

05:31:16,558 --> 05:31:21,430

shorter

4274

05:31:26,150 --> 05:31:23,080

yeah i'm at 53-29

4275

05:31:27,590 --> 05:31:26,160

[Music]

4276

05:31:35,510 --> 05:31:27,600

guys that make sense

4277

05:31:39,110 --> 05:31:37,510

and you said your tether is

4278

05:31:42,150 --> 05:31:39,120

oh your tether is limiting you from

4279

05:31:42,160 --> 05:31:45,110

correct

4280

05:31:47,430 --> 05:31:46,310

does that make sense it shouldn't be

4281

05:31:49,270 --> 05:31:47,440

that short

4282

05:31:51,350 --> 05:31:49,280

yeah we're tracking that you should be

4283

05:31:54,150 --> 05:31:51,360

able to translate further outboard so we

4284

05:32:07,030 --> 05:31:54,160

think you might have a snag

4285

05:32:12,390 --> 05:32:10,470

and shane we're going to have you

4286

05:32:14,708 --> 05:32:12,400

shane we're going to have you backtrack

4287

05:32:16,628 --> 05:32:14,718

um we think it might be a snag

4288

05:32:20,150 --> 05:32:16,638

uh if you can turn back and see anything

4289

05:32:20,160 --> 05:32:34,380

i'm doing that now thanks

4290

05:32:39,990 --> 05:32:38,390

[Applause]

4291

05:32:42,628 --> 05:32:40,000

when i have the wheel in my hand jenny

4292

05:32:47,350 --> 05:32:42,638

it's retracting and

4293

05:32:47,360 --> 05:32:50,948

copy

4294

05:32:50,958 --> 05:33:13,510

i can't see anything from here

4295

05:33:15,910 --> 05:33:14,390

so

4296

05:33:19,910 --> 05:33:15,920

actually that that goes off of this

4297

05:33:28,788 --> 05:33:19,920

first phase just installed correct

4298

05:33:31,110 --> 05:33:30,310

whatever i did went back a little bit

4299

05:33:32,470 --> 05:33:31,120

and

4300

05:33:42,230 --> 05:33:32,480

throughout four again it seems to be

4301
05:34:02,868 --> 05:33:44,230
a lot of potential for snags around this

4302
05:34:06,070 --> 05:34:04,310
shane we're still talking to you tether

4303
05:34:09,190 --> 05:34:06,080
you're still limited from going outboard

4304
05:34:12,070 --> 05:34:10,868
i'm good to go i went back in a little

4305
05:34:14,788 --> 05:34:12,080
bit and

4306
05:34:17,590 --> 05:34:14,798
tried it again and it uh went free so

4307
05:34:19,270 --> 05:34:17,600
i'm at the first 17 right now

4308
05:34:21,510 --> 05:34:19,280
oh okay that's great news you're looking

4309
05:34:32,470 --> 05:34:21,520
to install that apfr and with 17

4310
05:34:36,070 --> 05:34:34,230
and with a good tether configuration

4311
05:34:38,548 --> 05:34:36,080
shane kimbrough made his way out to the

4312
05:34:39,830 --> 05:34:38,558
4b work site this is essentially the

4313
05:34:41,030 --> 05:34:39,840

opposite end of where they've been

4314

05:34:43,510 --> 05:34:41,040

working throughout the duration of

4315

05:34:45,670 --> 05:34:43,520

today's spacewalk after completely

4316

05:34:49,590 --> 05:34:45,680

installing and deploying

4317

05:34:51,590 --> 05:34:49,600

the new irosa solar array that will be

4318

05:34:53,190 --> 05:34:51,600

augmenting the power supply on the 2b

4319

05:34:55,510 --> 05:34:53,200

channel they're just doing some get

4320

05:34:57,510 --> 05:34:55,520

ahead work now

4321

05:34:58,628 --> 05:34:57,520

kimbrough installing a portable foot

4322

05:35:01,030 --> 05:34:58,638

restraint

4323

05:35:03,110 --> 05:35:01,040

into a worksite interface

4324

05:35:04,948 --> 05:35:03,120

really just getting it prepared for when

4325

05:35:07,110 --> 05:35:04,958

they head out again for a future

4326
05:35:14,868 --> 05:35:07,120
spacewalk to upgrade that power channel

4327
05:35:20,150 --> 05:35:15,910
that's where you want me to put your

4328
05:35:24,390 --> 05:35:21,670
hey firm tomorrow that's a good position

4329
05:35:30,628 --> 05:35:24,400
for the bag just make sure that the

4330
05:35:30,638 --> 05:35:36,360
correction the hinge faces inboard

4331
05:35:36,370 --> 05:35:42,470
[Music]

4332
05:35:47,350 --> 05:35:44,788
okay judy six o'clock black on black

4333
05:35:51,750 --> 05:35:47,360
good pull test get twist test push knob

4334
05:35:58,150 --> 05:35:53,670
copy chain and to confirm that's a

4335
05:35:58,160 --> 05:36:03,510
12. sorry gonna say six

4336
05:36:03,520 --> 05:36:07,350
yeah we're looking for a clocking of 12.

4337
05:36:07,360 --> 05:36:10,948
that's what it is

4338
05:36:15,270 --> 05:36:13,270

okay great so those are good checks the

4339

05:36:31,910 --> 05:36:15,280

remainder of your settings are foxbox

4340

05:36:31,920 --> 05:36:52,610

okay

4341

05:36:52,620 --> 05:36:56,708

[Music]

4342

05:36:56,718 --> 05:37:47,910

good words

4343

05:38:00,788 --> 05:37:51,670

jenny foxtrot foxtrot boxer at eight

4344

05:38:05,110 --> 05:38:03,190

copy you'll stow that on your brt and

4345

05:38:45,750 --> 05:38:05,120

can we check pitch knob popped out on

4346

05:38:45,760 --> 05:39:01,430

thank you

4347

05:39:09,430 --> 05:39:03,590

jenny do you want it open or close to

4348

05:39:14,548 --> 05:39:12,070

you can leave the bag closed toma your

4349

05:39:16,470 --> 05:39:14,558

next step are to travel

4350

05:39:24,150 --> 05:39:16,480

translate inboard and pick up your green

4351

05:39:30,070 --> 05:39:26,070

i can't leave it closed but can i leave

4352

05:39:30,080 --> 05:39:43,270

barrels right here

4353

05:39:49,110 --> 05:39:46,390

so the bag does need to stay closed for

4354

05:39:54,390 --> 05:39:51,990

[Applause]

4355

05:40:04,810 --> 05:39:54,400

if it helps you might be able to use the

4356

05:40:04,820 --> 05:40:19,750

[Applause]

4357

05:40:19,760 --> 05:40:23,430

yeah i got the crew life bag

4358

05:40:28,310 --> 05:40:25,670

my brt jimmy

4359

05:40:30,150 --> 05:40:28,320

ready to translate that

4360

05:40:31,990 --> 05:40:30,160

copy shane i'll take a glove inspection

4361

05:40:33,350 --> 05:40:32,000

hack check and gauntlet check from you

4362

05:40:40,868 --> 05:40:33,360

and then we'll have you translate back

4363

05:40:47,270 --> 05:40:44,868

walls are great um dry hop and gauntlets

4364

05:40:49,350 --> 05:40:47,280

are in place

4365

05:40:53,750 --> 05:40:49,360

poppy good checks from you shane you can

4366

05:40:53,760 --> 05:41:00,868

tomorrow meet you up here okay

4367

05:41:07,190 --> 05:41:03,590

tomorrow we're still checking on uh bag

4368

05:41:45,350 --> 05:41:10,310

oh it's screwed up

4369

05:41:45,360 --> 05:41:54,150

hello

4370

05:41:54,160 --> 05:42:06,720

uh

4371

05:42:06,730 --> 05:42:10,150

[Music]

4372

05:42:13,830 --> 05:42:11,990

it's floating a little bit with general

4373

05:42:15,350 --> 05:42:13,840

orientation that you wanted i think it's

4374

05:42:21,190 --> 05:42:15,360

good enough

4375

05:42:25,190 --> 05:42:23,510

copy and we agree that looks uh looks

4376

05:42:27,030 --> 05:42:25,200

good to us it really is your best effort

4377

05:42:29,830 --> 05:42:27,040

and as long as you're happy tomorrow so

4378

05:42:32,390 --> 05:42:29,840

with that you can translate to retrieve

4379

05:42:33,830 --> 05:42:32,400

your green hook shane is going to be

4380

05:42:36,868 --> 05:42:33,840

translating there as well he's on his

4381

05:42:36,878 --> 05:42:44,890

okay

4382

05:42:44,900 --> 05:42:59,830

[Applause]

4383

05:42:59,840 --> 05:43:06,310

okay

4384

05:43:10,548 --> 05:43:07,670

all right i'm gonna stop and fix my

4385

05:43:31,350 --> 05:43:10,558

cover again it's not retracted

4386

05:43:36,708 --> 05:43:33,510

as we enter into an orbital night time

4387

05:43:39,270 --> 05:43:36,718

the two astronauts out of the p6 trust

4388

05:43:42,310 --> 05:43:39,280

that's uh tomo pesque of the european

4389

05:43:45,430 --> 05:43:42,320

space agency and shane kimbrough of nasa

4390

05:43:47,510 --> 05:43:45,440

completing their work preparing the 4b

4391

05:43:48,548 --> 05:43:47,520

work site so they move some of their

4392

05:43:50,788 --> 05:43:48,558

equipment

4393

05:43:53,750 --> 05:43:50,798

including portable foot restraints uh

4394

05:43:57,030 --> 05:43:53,760

some tethers some cables uh all over to

4395

05:44:01,030 --> 05:43:58,548

and uh

4396

05:44:03,590 --> 05:44:01,040

they are done with those procedures the

4397

05:44:06,628 --> 05:44:03,600

4b work site ready uh for the next

4398

05:44:08,708 --> 05:44:06,638

spacewalk uh the next uh set of

4399

05:44:10,788 --> 05:44:08,718

procedures we are waiting for from the

4400

05:44:13,590 --> 05:44:10,798

ground here in mission control houston

4401
05:44:15,750 --> 05:44:13,600
uh will be the set of procedures to head

4402
05:44:17,270 --> 05:44:15,760
over to the flight support equipment

4403
05:44:19,590 --> 05:44:17,280
which is on the end of the station's

4404
05:44:21,110 --> 05:44:19,600
robotic arm

4405
05:44:24,390 --> 05:44:21,120
there

4406
05:44:26,230 --> 05:44:24,400
is the other irosa the other solar array

4407
05:44:28,070 --> 05:44:26,240
that will be used to upgrade the 4b

4408
05:44:29,430 --> 05:44:28,080
power channel the worksite that they've

4409
05:44:32,230 --> 05:44:29,440
been preparing

4410
05:44:34,470 --> 05:44:32,240
for that next set of upgrades their task

4411
05:44:36,708 --> 05:44:34,480
for the remainder of today's spacewalk

4412
05:44:38,548 --> 05:44:36,718
is to go over to that worksite and

4413
05:44:41,030 --> 05:44:38,558

unbolt

4414

05:44:43,270 --> 05:44:41,040

a few things essentially preparing that

4415

05:44:45,830 --> 05:44:43,280

irosa to be removed from the flight

4416

05:44:58,548 --> 05:44:45,840

support equipment and brought over to

4417

05:45:01,510 --> 05:45:00,150

i'm going to work on mine again i'm at

4418

05:45:03,430 --> 05:45:01,520

my green hook tomorrow but my other

4419

05:45:06,708 --> 05:45:03,440

one's pretty

4420

05:45:07,830 --> 05:45:06,718

messed up so i'm there working on it

4421

05:45:10,470 --> 05:45:07,840

and we're back with you after the

4422

05:45:16,628 --> 05:45:10,480

handover we copy about your your tether

4423

05:45:16,638 --> 05:45:21,830

yeah tomorrow too i think yeah

4424

05:45:21,840 --> 05:45:58,960

i'm on my way

4425

05:46:02,390 --> 05:46:00,150

[Applause]

4426

05:46:04,708 --> 05:46:02,400

all right

4427

05:46:06,628 --> 05:46:04,718

i got my green hook on my red reel um do

4428

05:46:08,310 --> 05:46:06,638

you want to model it or immediately

4429

05:46:10,070 --> 05:46:08,320

going back

4430

05:46:11,350 --> 05:46:10,080

checking

4431

05:46:13,190 --> 05:46:11,360

right now

4432

05:46:21,120 --> 05:46:13,200

yeah

4433

05:46:21,130 --> 05:46:26,708

[Music]

4434

05:46:29,590 --> 05:46:27,510

uh

4435

05:46:31,590 --> 05:46:29,600

it's not convenient here can you get

4436

05:46:32,948 --> 05:46:31,600

over me here no no no there's no group

4437

05:46:34,310 --> 05:46:32,958

hammer out so we'll go like this and

4438

05:46:36,390 --> 05:46:34,320

we'll be consistent

4439

05:46:38,150 --> 05:46:36,400

no problem guys if it's easier for shane

4440

05:46:43,990 --> 05:46:38,160

to lead back that's fine with us shane

4441

05:46:48,708 --> 05:46:45,590

there's no good handrails here for me

4442

05:46:50,948 --> 05:46:48,718

it's the example of shane

4443

05:46:53,350 --> 05:46:50,958

no problem i understand just make sure i

4444

05:46:55,510 --> 05:46:53,360

i copy that um shane has retrieved his

4445

05:46:57,190 --> 05:46:55,520

green hook tilma i need words on you

4446

05:46:58,548 --> 05:46:57,200

picking up yours and a glove inspection

4447

05:47:03,190 --> 05:46:58,558

have check gauntlet check when you get

4448

05:47:07,110 --> 05:47:05,350

i've known that 309 just yet but i'm

4449

05:47:23,190 --> 05:47:07,120

getting better get it

4450

05:47:27,590 --> 05:47:24,948

okay for your noise we got the

4451
05:47:30,940 --> 05:47:30,230
there it is there it is

4452
05:47:32,868 --> 05:47:30,950
happy

4453
05:47:35,110 --> 05:47:32,878
[Music]

4454
05:47:37,350 --> 05:47:35,120
i'll pick up my green hoop jenny and put

4455
05:47:49,590 --> 05:47:37,360
it on my red reel if that's uh that's

4456
05:47:53,590 --> 05:47:51,750
the green hook is on my right wheel and

4457
05:47:55,510 --> 05:47:53,600
it stays unlocked

4458
05:47:58,070 --> 05:47:55,520
both reels are

4459
05:48:00,470 --> 05:47:58,080
unlocked and my yellow hook

4460
05:48:02,390 --> 05:48:00,480
is locked on my green

4461
05:48:04,788 --> 05:48:02,400
heel

4462
05:48:06,070 --> 05:48:04,798
copy that's a good config toma i'll take

4463
05:48:13,900 --> 05:48:06,080

a glove inspection half check and

4464

05:48:13,910 --> 05:48:21,510

[Music]

4465

05:48:26,628 --> 05:48:23,750

okay copy that's a good check i have a

4466

05:48:31,030 --> 05:48:26,638

big picture update for both of you

4467

05:48:34,628 --> 05:48:31,040

our p-e-t is 4 hours 35 minutes

4468

05:48:36,628 --> 05:48:34,638

ev-1 medox 7 hour 20 minutes

4469

05:48:39,670 --> 05:48:36,638

as mentioned previously we are headed to

4470

05:48:42,070 --> 05:48:39,680

the fse to release the irosa

4471

05:48:44,390 --> 05:48:42,080

upper support beams that should take us

4472

05:48:50,510 --> 05:48:44,400

about one hour and then we will reassess

4473

05:48:50,520 --> 05:49:04,708

[Music]

4474

05:49:07,990 --> 05:49:06,390

so confirmed from the flight control

4475

05:49:09,190 --> 05:49:08,000

teams here in mission control houston

4476

05:49:11,430 --> 05:49:09,200

everything looking good for the two

4477

05:49:13,750 --> 05:49:11,440

spacewalking astronauts to proceed to

4478

05:49:15,030 --> 05:49:13,760

that flight support equipment correction

4479

05:49:16,868 --> 05:49:15,040

that's not at the end of the station's

4480

05:49:19,670 --> 05:49:16,878

robotic arm it's on a portion of the

4481

05:49:21,670 --> 05:49:19,680

station's trust called the cedar cart

4482

05:49:23,910 --> 05:49:21,680

there it houses the flight support

4483

05:49:26,628 --> 05:49:23,920

equipment that is holding the

4484

05:49:30,868 --> 05:49:26,638

final irosa that was delivered on spacex

4485

05:49:36,230 --> 05:49:33,110

these irosa is contracted to be built by

4486

05:49:37,910 --> 05:49:36,240

boeing and subcontracted by red wire are

4487

05:49:40,708 --> 05:49:37,920

going to provide augmented power

4488

05:49:42,948 --> 05:49:40,718

supplies to the entire space station the

4489

05:49:44,948 --> 05:49:42,958

first two being delivered uh this year

4490

05:49:51,270 --> 05:49:44,958

on crs-22

4491

05:49:55,350 --> 05:49:52,948

again they finished the preparations

4492

05:49:56,948 --> 05:49:55,360

needed for the next work site the 4b

4493

05:49:59,990 --> 05:49:56,958

channel they won't be going back to the

4494

05:50:01,750 --> 05:50:00,000

4b channel today to install that irosa

4495

05:50:03,590 --> 05:50:01,760

instead they'll use the remainder of

4496

05:50:05,990 --> 05:50:03,600

their time as noted by the flight

4497

05:50:08,230 --> 05:50:06,000

controllers here one hour to loosen up

4498

05:50:09,030 --> 05:50:08,240

some bolts on a beam that's keeping the

4499

05:50:10,708 --> 05:50:09,040

uh

4500

05:50:12,788 --> 05:50:10,718

irosa in place

4501
05:50:14,628 --> 05:50:12,798
that will eliminate about an hour of

4502
05:50:16,390 --> 05:50:14,638
time from the next spacewalk when

4503
05:50:18,868 --> 05:50:16,400
they'll go out and be able to remove

4504
05:50:21,750 --> 05:50:18,878
that irosa pretty quickly move it over

4505
05:50:24,230 --> 05:50:21,760
to the mounting bracket on the 4b

4506
05:50:28,390 --> 05:50:24,240
channel and install it to complete the

4507
05:50:34,548 --> 05:50:28,400
4b channels augmented power supply

4508
05:50:39,510 --> 05:50:36,470
so as written i do have you climbing on

4509
05:50:41,910 --> 05:50:39,520
to the fse from the zenith

4510
05:50:51,830 --> 05:50:41,920
square

4511
05:50:59,030 --> 05:50:53,510
and i do have some reminder cautions i

4512
05:51:03,510 --> 05:51:01,510
yeah already

4513
05:51:05,830 --> 05:51:03,520

no sub movement stops or quick grabs on

4514

05:51:08,470 --> 05:51:05,840

the sse translate slowly

4515

05:51:10,470 --> 05:51:08,480

wait until fse motion dampens out before

4516

05:51:12,708 --> 05:51:10,480

imparting any loads

4517

05:51:16,310 --> 05:51:12,718

while working on the fse you must not

4518

05:51:18,070 --> 05:51:16,320

simultaneously impart loads into the fse

4519

05:51:19,030 --> 05:51:18,080

driving and releasing bolts at the same

4520

05:51:20,548 --> 05:51:19,040

time

4521

05:51:22,788 --> 05:51:20,558

is acceptable

4522

05:51:37,030 --> 05:51:22,798

and do not contact the arosa blankets

4523

05:51:37,040 --> 05:51:51,030

yep

4524

05:51:54,708 --> 05:51:53,190

so we just got your helmet cams

4525

05:51:56,230 --> 05:51:54,718

back i can see some while you're

4526
05:52:04,330 --> 05:51:56,240
retrieving your crew lock bag from the

4527
05:52:04,340 --> 05:52:16,868
[Music]

4528
05:52:20,390 --> 05:52:18,310
getting some good views from the helmet

4529
05:52:22,470 --> 05:52:20,400
camera of shane kimbrough looking at

4530
05:52:24,310 --> 05:52:22,480
tomorrow pesquet european space agency

4531
05:52:26,230 --> 05:52:24,320
astronaut they both arrived at the work

4532
05:52:29,350 --> 05:52:26,240
site the flight support equipment there

4533
05:52:31,030 --> 05:52:29,360
is in irosa another solar array on the

4534
05:52:34,070 --> 05:52:31,040
flight support equipment he's working

4535
05:52:36,390 --> 05:52:34,080
with a crew lock bag to get some tools

4536
05:52:38,310 --> 05:52:36,400
needed for loosening the bolts that will

4537
05:52:40,948 --> 05:52:38,320
help with some of the get ahead tasks to

4538
05:52:42,548 --> 05:52:40,958

prepare for removing the irosa from the

4539

05:52:44,868 --> 05:52:42,558

flight support equipment and moving it

4540

05:52:47,270 --> 05:52:44,878

over to the other power channel on the

4541

05:53:01,990 --> 05:52:47,280

port 6 trust the 4b channel on a future

4542

05:53:02,000 --> 05:53:10,548

we're going to

4543

05:53:41,110 --> 05:53:13,080

right there i think

4544

05:53:45,110 --> 05:53:43,190

now entering into another short handover

4545

05:53:47,990 --> 05:53:45,120

period already gaining regaining some of

4546

05:53:49,350 --> 05:53:48,000

the audio from space

4547

05:53:50,470 --> 05:53:49,360

again the flight control teams here in

4548

05:53:54,310 --> 05:53:50,480

mission

4549

05:53:55,590 --> 05:53:54,320

flight director ron spencer you see at

4550

05:53:56,868 --> 05:53:55,600

the right of your screen the voice

4551
05:53:57,830 --> 05:53:56,878
you're he's hearing from here in mission

4552
05:54:00,230 --> 05:53:57,840
control

4553
05:54:09,270 --> 05:54:00,240
jenny city there in the middle of the

4554
05:54:11,590 --> 05:54:10,220
what am i going

4555
05:54:14,548 --> 05:54:11,600
[Music]

4556
05:54:16,548 --> 05:54:14,558
ready i'm staying here

4557
05:54:18,150 --> 05:54:16,558
you are stowing your crew lock bag on

4558
05:54:20,070 --> 05:54:18,160
the tower handrail if that's not done

4559
05:54:26,150 --> 05:54:20,080
already

4560
05:54:29,830 --> 05:54:28,150
you'll also be performing a socket swipe

4561
05:54:31,430 --> 05:54:29,840
as you can see

4562
05:54:34,548 --> 05:54:31,440
you'll also need to perform

4563
05:54:37,190 --> 05:54:34,558

you're going later tomorrow yeah

4564

05:54:39,430 --> 05:54:37,200

that's the translation rail for me danny

4565

05:54:40,948 --> 05:54:39,440

media or signal to the other side of the

4566

05:54:43,750 --> 05:54:40,958

i8

4567

05:54:45,830 --> 05:54:43,760

coffee so then you'll be that's correct

4568

05:54:49,970 --> 05:54:45,840

translating nader outboard to get to the

4569

05:54:52,628 --> 05:54:51,110

[Music]

4570

05:54:54,070 --> 05:54:52,638

venus

4571

05:54:55,910 --> 05:54:54,080

hey firm

4572

05:55:04,150 --> 05:54:55,920

shane's going to translate zenith

4573

05:55:20,948 --> 05:55:06,548

together from where you are

4574

05:55:20,958 --> 05:55:27,750

there yep

4575

05:55:31,350 --> 05:55:29,510

a good view being provided from the

4576
05:55:33,350 --> 05:55:31,360
trust segment of the international space

4577
05:55:35,110 --> 05:55:33,360
station you can see the other solar

4578
05:55:36,548 --> 05:55:35,120
array in the center of your screen is

4579
05:55:38,310 --> 05:55:36,558
folded in half

4580
05:55:40,230 --> 05:55:38,320
just like the other array was at the

4581
05:55:42,150 --> 05:55:40,240
beginning of today's spacewalk you can

4582
05:55:44,868 --> 05:55:42,160
also see the station's robotic arm off

4583
05:55:46,868 --> 05:55:44,878
to the left it is stretched out uh as

4584
05:55:48,708 --> 05:55:46,878
earlier in today's spacewalk the other

4585
05:55:50,708 --> 05:55:48,718
end of the station's robotic arm was

4586
05:55:53,430 --> 05:55:50,718
providing some camera views of the

4587
05:55:58,390 --> 05:55:53,440
deployment of the solar array on the 2b

4588
05:56:06,310 --> 05:56:00,548

hey firm shane you're headed zenith

4589

05:56:06,320 --> 05:56:09,910

right here tomorrow

4590

05:56:15,670 --> 05:56:11,270

you'll both be on the outboard side

4591

05:56:15,680 --> 05:56:29,030

wfsc moving

4592

05:56:29,040 --> 05:56:49,510

okay i'm gonna start moving again

4593

05:56:53,830 --> 05:56:51,350

a firm you'll be leaving your crew lock

4594

05:56:55,510 --> 05:56:53,840

bank there shane and tomah you are

4595

05:57:04,070 --> 05:56:55,520

stowing your kulak bag on the tower

4596

05:57:07,430 --> 05:57:06,150

good coordination you too

4597

05:57:12,030 --> 05:57:07,440

shane let me know if you need a hand

4598

05:57:12,040 --> 05:57:24,630

um that's right

4599

05:57:24,640 --> 05:57:29,350

[Music]

4600

05:58:01,830 --> 05:57:30,628

rail

4601
05:58:05,670 --> 05:58:04,470
and my crew lock bag is on sev i'm going

4602
05:58:07,670 --> 05:58:05,680
to get my phd off

4603
05:58:09,910 --> 05:58:07,680
[Applause]

4604
05:58:22,390 --> 05:58:09,920
and shane you'll actually be translating

4605
05:58:22,400 --> 05:58:28,070
[Music]

4606
05:58:33,910 --> 05:58:31,030
come on next up for you i have

4607
05:59:01,430 --> 05:58:33,920
doing a socket swap to the 5 8 2 inch

4608
05:59:05,430 --> 05:59:02,868
okay jimmy i'm going to head over to

4609
05:59:07,990 --> 05:59:05,440
stanson alpha if you're good with that

4610
05:59:10,470 --> 05:59:08,000
yep i am tomah is not translating so you

4611
05:59:19,590 --> 05:59:10,480
can translate to stanchion alpha it is

4612
05:59:19,600 --> 05:59:38,310
i'm gonna move

4613
05:59:43,910 --> 05:59:42,548

i'm still attached to the bag probably

4614

05:59:45,590 --> 05:59:43,920

since uh

4615

05:59:47,750 --> 05:59:45,600

all those attachment points i've

4616

05:59:56,470 --> 05:59:47,760

taken one is gonna stay on the red

4617

06:00:00,310 --> 05:59:58,470

not sure i understood tomah your sock is

4618

06:00:02,628 --> 06:00:00,320

swapping to the 5 8 2 inch and then

4619

06:00:17,030 --> 06:00:02,638

stowing the 7 16 6 inch back on the

4620

06:00:20,390 --> 06:00:19,350

and remove the somehow

4621

06:00:21,430 --> 06:00:20,400

you don't know if i could tell you so

4622

06:00:23,590 --> 06:00:21,440

one second he's going to stay on the

4623

06:00:33,750 --> 06:00:23,600

pitch taking that with you

4624

06:00:33,760 --> 06:00:41,350

checking

4625

06:00:41,360 --> 06:01:00,150

all right now i'm moving tomorrow

4626
06:01:03,350 --> 06:01:01,510
so is the issue that you don't have a

4627
06:01:04,948 --> 06:01:03,360
pit pin available tomorrow we're just

4628
06:01:09,510 --> 06:01:04,958
trying to pinpoint

4629
06:01:12,070 --> 06:01:10,788
there's no use

4630
06:01:14,708 --> 06:01:12,080
i'm just

4631
06:01:17,190 --> 06:01:14,718
you know i've take a socket off the

4632
06:01:20,470 --> 06:01:17,200
kelly i cannot put it anywhere

4633
06:01:21,990 --> 06:01:20,480
until i take the sucker from my

4634
06:01:23,510 --> 06:01:22,000
screen on the side so i'm just

4635
06:01:26,150 --> 06:01:23,520
saying

4636
06:01:27,830 --> 06:01:26,160
that it's not a big deal

4637
06:01:29,830 --> 06:01:27,840
yeah you can just leave it on the pit

4638
06:01:49,590 --> 06:01:29,840

pin come on that's totally legal that's

4639

06:01:53,830 --> 06:01:52,070

all right i'm just coming up to

4640

06:01:56,150 --> 06:01:53,840

dancing alpha now i'll see your streak

4641

06:02:02,628 --> 06:01:56,160

each other here

4642

06:02:02,638 --> 06:02:08,310

okay i have the twins on the kick bin

4643

06:02:08,320 --> 06:02:13,910

copy thomas

4644

06:02:17,030 --> 06:02:15,510

shane you'll be staging a mini

4645

06:02:19,030 --> 06:02:17,040

workstation rat

4646

06:02:20,390 --> 06:02:19,040

on the closest beam handrail for

4647

06:02:22,230 --> 06:02:20,400

tempstow

4648

06:02:23,510 --> 06:02:22,240

make sure that you loop the record over

4649

06:02:32,520 --> 06:02:23,520

the beam structure to make sure it

4650

06:02:32,530 --> 06:02:48,948

[Music]

4651
06:02:53,990 --> 06:02:51,270
coming up on five hours into today's

4652
06:02:56,708 --> 06:02:54,000
spacewalk the two astronauts uh tomah

4653
06:02:59,350 --> 06:02:56,718
pesquet on the right and shane kimbrough

4654
06:03:02,070 --> 06:02:59,360
on the left are working uh to release

4655
06:03:04,628 --> 06:03:02,080
some support beams that are keeping the

4656
06:03:07,030 --> 06:03:04,638
final solar array that was delivered on

4657
06:03:09,750 --> 06:03:07,040
spacex crs 22

4658
06:03:12,708 --> 06:03:09,760
from some flight support equipment

4659
06:03:15,430 --> 06:03:12,718
this will help to reduce the time to

4660
06:03:16,948 --> 06:03:15,440
remove the irosa from this flight

4661
06:03:19,510 --> 06:03:16,958
support equipment when it is brought

4662
06:03:25,000 --> 06:03:19,520
over to be installed on the 4b channel

4663
06:03:25,010 --> 06:03:29,190

[Music]

4664

06:03:29,200 --> 06:03:34,628

copy tomorrow

4665

06:03:39,350 --> 06:03:37,670

this is the second irosa delivered uh to

4666

06:03:41,910 --> 06:03:39,360

the international space station and to

4667

06:03:44,150 --> 06:03:41,920

be installed there are planned six

4668

06:03:46,548 --> 06:03:44,160

uh as part of the power augmentation

4669

06:03:51,910 --> 06:03:46,558

plan to augment the station's power

4670

06:03:55,990 --> 06:03:53,670

the solar arrays were contracted to be

4671

06:03:58,548 --> 06:03:56,000

built by boeing and some

4672

06:04:00,310 --> 06:03:58,558

subcontracted by red wire

4673

06:04:02,628 --> 06:04:00,320

and shane just for clarification that

4674

06:04:04,948 --> 06:04:02,638

many workstation rats should be entirely

4675

06:04:07,750 --> 06:04:04,958

on the handrail so one hook on each wire

4676
06:04:08,708 --> 06:04:07,760
glass stanchion with the rec cord looped

4677
06:04:12,470 --> 06:04:08,718
over

4678
06:04:16,390 --> 06:04:14,788
got it i'll just i'm trying on direct to

4679
06:04:18,868 --> 06:04:16,400
make that happen thanks

4680
06:04:21,910 --> 06:04:18,878
then he has a two inch on my eggs a

4681
06:04:38,868 --> 06:04:23,750
driving close by

4682
06:04:38,878 --> 06:04:48,760
all right

4683
06:05:00,470 --> 06:04:57,610
[Music]

4684
06:05:03,350 --> 06:05:00,480
[Applause]

4685
06:05:05,910 --> 06:05:03,360
you're going to pre-stage a rat

4686
06:05:07,910 --> 06:05:05,920
on the lower stanchion of the grapple

4687
06:05:20,820 --> 06:05:07,920
tower handrail and that's going to go to

4688
06:05:25,750 --> 06:05:23,990

[Music]

4689

06:05:28,230 --> 06:05:25,760

yep from your mini workstation and this

4690

06:05:30,310 --> 06:05:28,240

is just to temp stove this beam because

4691

06:05:38,170 --> 06:05:30,320

we cannot install it yet with the other

4692

06:05:38,180 --> 06:05:48,940

[Applause]

4693

06:05:52,548 --> 06:05:50,470

[Music]

4694

06:05:55,990 --> 06:05:52,558

all the way to

4695

06:06:00,548 --> 06:05:57,670

a firm you're going to attach it to the

4696

06:06:03,510 --> 06:06:00,558

closest beam handrail stanchion

4697

06:06:05,990 --> 06:06:03,520

and i copy the rec config from shane

4698

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

that sounds good you can get in position

4699

06:06:10,150 --> 06:06:08,160

with your pgd and keep in mind this is a

4700

06:06:16,070 --> 06:06:10,160

bravo seven setting for both of you to

4701
06:06:22,868 --> 06:06:18,230
after that i got a vrt on

4702
06:06:25,110 --> 06:06:22,878
for c7 and c8 when you tell me

4703
06:06:26,868 --> 06:06:25,120
copy you can get that in place

4704
06:06:33,590 --> 06:06:26,878
uh tomah just needs to attach the threat

4705
06:06:33,600 --> 06:06:57,750
you're right there shane yeah

4706
06:06:57,760 --> 06:07:01,350
all right the light goes from the lower

4707
06:07:06,548 --> 06:07:03,670
attention of the tower

4708
06:07:07,190 --> 06:07:06,558
from my crew like maggie's

4709
06:07:09,590 --> 06:07:07,200
to the

4710
06:07:11,350 --> 06:07:09,600
[Music]

4711
06:07:13,510 --> 06:07:11,360
all right should we be in the handrail

4712
06:07:15,430 --> 06:07:13,520
closest to me

4713
06:07:18,150 --> 06:07:15,440

coffee that looks good so that will be

4714

06:07:20,708 --> 06:07:18,160

the first rut for the tempstow

4715

06:07:23,270 --> 06:07:20,718

toma you can also get in a position

4716

06:07:25,750 --> 06:07:23,280

for a pgt setting of bravo 7. you're

4717

06:07:32,390 --> 06:07:25,760

going to be working with c10 and c9

4718

06:07:34,868 --> 06:07:33,590

and it keeps

4719

06:07:36,948 --> 06:07:34,878

getting caught

4720

06:07:39,430 --> 06:07:36,958

going around the corner okay

4721

06:07:41,030 --> 06:07:39,440

that should be fine

4722

06:07:43,430 --> 06:07:41,040

with seven

4723

06:07:55,990 --> 06:07:43,440

i don't have a freaking brt

4724

06:07:59,110 --> 06:07:57,270

angle i guess but you have a different

4725

06:08:04,070 --> 06:07:59,120

one

4726

06:08:07,910 --> 06:08:06,548

i think that's your only option yeah

4727

06:08:11,430 --> 06:08:07,920

i agree

4728

06:08:13,350 --> 06:08:11,440

with the same problem on the next one

4729

06:08:15,670 --> 06:08:13,360

we agree the options are sparse for a

4730

06:08:16,868 --> 06:08:15,680

brt hold there hopefully you can use the

4731

06:08:37,590 --> 06:08:16,878

stanchion

4732

06:08:37,600 --> 06:08:44,310

too

4733

06:08:49,990 --> 06:08:46,230

bravo seven counter two it'll be the

4734

06:08:54,830 --> 06:08:52,390

okay that's set for ev2

4735

06:08:57,110 --> 06:08:54,840

and i copy bravo seven counter

4736

06:09:02,230 --> 06:08:57,120

two maybe one

4737

06:09:02,240 --> 06:09:14,060

level seven

4738

06:09:14,070 --> 06:09:22,868

[Music]

4739

06:09:26,150 --> 06:09:24,548

okay again you can release bolts

4740

06:09:28,868 --> 06:09:26,160

simultaneously

4741

06:09:31,350 --> 06:09:28,878

tomah you'll be releasing both bolts c9

4742

06:09:34,070 --> 06:09:31,360

and c10 shane you will only be releasing

4743

06:09:35,590 --> 06:09:34,080

c7 until tomah is ready to take control

4744

06:09:38,628 --> 06:09:35,600

of the beam

4745

06:09:58,370 --> 06:09:38,638

8 to 11 turns each the bolts will spring

4746

06:09:58,380 --> 06:10:09,350

[Music]

4747

06:10:18,628 --> 06:10:11,110

transfer c7

4748

06:10:18,638 --> 06:10:36,620

i'm starting now so that was c9 copy

4749

06:10:36,630 --> 06:10:42,470

[Music]

4750

06:10:53,840 --> 06:10:45,270

happy now 10 turns on c10 tomorrow you

4751
06:11:13,270 --> 06:10:56,470

[Music]

4752
06:11:17,990 --> 06:11:14,708

ready

4753
06:11:22,390 --> 06:11:19,830

working on support beams that are

4754
06:11:24,310 --> 06:11:22,400

keeping the irosa in place on that

4755
06:11:26,628 --> 06:11:24,320

flight support equipment there are four

4756
06:11:37,650 --> 06:11:26,638

bolts that they're driving for the

4757
06:11:57,270 --> 06:11:44,780

[Music]

4758
06:12:01,190 --> 06:12:00,070

there are two bolts on each side of the

4759
06:12:06,310 --> 06:12:01,200

uh

4760
06:12:25,110 --> 06:12:08,470

for each of the space walking astronauts

4761
06:12:28,708 --> 06:12:27,750

nine turns

4762
06:12:31,030 --> 06:12:28,718

copy

4763
06:12:36,948 --> 06:12:31,040

nine turns on charlie eight you can stow

4764

06:12:48,548 --> 06:12:38,948

what's

4765

06:13:06,548 --> 06:12:50,708

okay uh

4766

06:13:12,548 --> 06:13:09,750

well done you can attach the

4767

06:13:15,750 --> 06:13:12,558

staged rhett from shane to the upper

4768

06:13:23,990 --> 06:13:15,760

handrail expansion on the tower

4769

06:13:28,070 --> 06:13:25,750

shane you will be translating to

4770

06:13:33,190 --> 06:13:28,080

stanchion bravo which is venus and

4771

06:13:36,868 --> 06:13:34,788

happy head

4772

06:13:38,070 --> 06:13:36,878

okay i have two reds

4773

06:13:41,510 --> 06:13:38,080

on that beam

4774

06:13:45,910 --> 06:13:43,990

copy that's a good tempsto toma you can

4775

06:13:47,830 --> 06:13:45,920

translate to stanchion charlie which is

4776

06:13:53,830 --> 06:13:47,840

the other side of the tower handrail or

4777

06:13:56,110 --> 06:13:55,590

let me move here tomorrow i'll be there

4778

06:14:08,548 --> 06:13:56,120

shortly

4779

06:14:18,948 --> 06:14:10,948

moving again

4780

06:14:24,070 --> 06:14:21,270

working together pesquet and kimbrough

4781

06:14:26,470 --> 06:14:24,080

have released the first beam

4782

06:14:28,788 --> 06:14:26,480

uh this support beam on the nader side

4783

06:14:30,070 --> 06:14:28,798

or the side that faces toward the earth

4784

06:14:32,070 --> 06:14:30,080

they've removed it and put it in a

4785

06:14:33,910 --> 06:14:32,080

temporary stowed position now moving

4786

06:14:36,150 --> 06:14:33,920

over to a different part of the flight

4787

06:14:37,910 --> 06:14:36,160

support equipment where there is another

4788

06:14:39,670 --> 06:14:37,920

beam on the zenith side of the space

4789

06:14:42,788 --> 06:14:39,680

facing side and they'll do the same

4790

06:14:42,798 --> 06:14:53,780

charlie there you go

4791

06:14:53,790 --> 06:14:57,350

[Applause]

4792

06:15:00,948 --> 06:14:58,948

now that you're in position you can

4793

06:15:02,788 --> 06:15:00,958

attach a red to the closest beam

4794

06:15:09,580 --> 06:15:02,798

handrail stanchion the other end of that

4795

06:15:09,590 --> 06:15:26,830

[Music]

4796

06:15:26,840 --> 06:15:31,510

yes here's the prt rep i guess

4797

06:15:31,520 --> 06:15:47,670

okay we copy

4798

06:15:58,628 --> 06:15:48,948

i'll just use the large smaller

4799

06:15:58,638 --> 06:16:04,470

that sounds good shane you can do that

4800

06:16:04,480 --> 06:16:08,628

yeah my charlie

4801
06:16:13,990 --> 06:16:11,110
copy to my you're at charlie you can get

4802
06:16:37,830 --> 06:16:14,000
ready to use your pgt again bravo 7

4803
06:16:43,830 --> 06:16:41,270
again pesquet and kimbrough have removed

4804
06:16:46,310 --> 06:16:43,840
one of the support beams that is keeping

4805
06:16:48,628 --> 06:16:46,320
uh the irosa secured to the flight

4806
06:16:50,708 --> 06:16:48,638
support equipment they'll remove another

4807
06:16:53,110 --> 06:16:50,718
beam and this will be a nice get ahead

4808
06:16:54,070 --> 06:16:53,120
uh to limit the number of steps needed

4809
06:16:57,590 --> 06:16:54,080
to

4810
06:16:59,190 --> 06:16:57,600
physically remove the irosa from the

4811
06:17:01,030 --> 06:16:59,200
flight support equipment and take it

4812
06:17:03,910 --> 06:17:01,040
over to the 4b channel on another

4813
06:17:05,990 --> 06:17:03,920

spacewalk again they've done one beam

4814

06:17:07,990 --> 06:17:06,000

removed it and put it in a temporary

4815

06:17:23,350 --> 06:17:08,000

stowed position now they're working on

4816

06:17:23,360 --> 06:17:30,070

okay

4817

06:17:30,080 --> 06:17:36,230

level seven

4818

06:17:40,708 --> 06:17:38,868

bravo 7 counter 2

4819

06:17:42,708 --> 06:17:40,718

shane you'll be releasing charlie 5 and

4820

06:17:43,990 --> 06:17:42,718

charlie 6. tomorrow you can release

4821

06:17:46,150 --> 06:17:44,000

charlie 4

4822

06:18:03,750 --> 06:17:46,160

and then hold until shane's ready to

4823

06:18:24,948 --> 06:18:05,830

we're expecting 8 to 11 turns the bolts

4824

06:18:24,958 --> 06:18:27,910

charlie four

4825

06:18:31,510 --> 06:18:29,670

okay tomorrow honorary charlie six and

4826

06:18:33,750 --> 06:18:31,520

you're gonna hold off right

4827

06:18:36,150 --> 06:18:33,760

uh yeah i'm gonna wait

4828

06:18:37,830 --> 06:18:36,160

yes tomorrow is going to pause before

4829

06:18:43,510 --> 06:18:37,840

releasing the final bolt

4830

06:18:43,520 --> 06:18:55,990

good 6. here

4831

06:19:01,910 --> 06:18:58,150

the crew continuing to work on the

4832

06:19:07,350 --> 06:19:04,310

one of two that they will be removing as

4833

06:19:09,670 --> 06:19:07,360

part of these procedures to

4834

06:19:11,590 --> 06:19:09,680

get a couple steps ahead of removing the

4835

06:19:14,150 --> 06:19:11,600

irosa from the flight support equipment

4836

06:19:15,670 --> 06:19:14,160

they won't physically remove it for this

4837

06:19:17,990 --> 06:19:15,680

spacewalk they'll save it for another

4838

06:19:19,750 --> 06:19:18,000

one we are getting some sunlight on the

4839

06:19:22,468 --> 06:19:19,760

outside of the international space

4840

06:19:24,390 --> 06:19:22,478

station as the station itself flies 260

4841

06:19:27,430 --> 06:19:24,400

statute miles over the middle of the

4842

06:19:29,110 --> 06:19:27,440

pacific ocean

4843

06:19:31,110 --> 06:19:29,120

you will be the one maintaining control

4844

06:19:38,468 --> 06:19:31,120

of the beam as tomorrow releases the

4845

06:19:38,478 --> 06:19:50,150

there's a pillow

4846

06:19:50,160 --> 06:20:00,390

either

4847

06:20:10,130 --> 06:20:02,930

oh

4848

06:20:31,270 --> 06:20:11,910

[Music]

4849

06:20:35,430 --> 06:20:33,510

a reminder for both of you we're not

4850

06:20:37,430 --> 06:20:35,440

tempting this beam

4851
06:20:39,510 --> 06:20:37,440
we're just putting it in its final

4852
06:20:41,750 --> 06:20:39,520
config so that means shane you're

4853
06:20:43,430 --> 06:20:41,760
maintaining control of it tomorrow will

4854
06:20:46,230 --> 06:20:43,440
release the final bolt

4855
06:20:48,310 --> 06:20:46,240
and then shane you will swing the beam

4856
06:20:50,868 --> 06:20:48,320
around so it's

4857
06:20:55,750 --> 06:20:50,878
parallel with the irosa blankets handles

4858
06:21:01,750 --> 06:20:58,310
i'm ready okay and what's our pgp

4859
06:21:04,150 --> 06:21:01,760
please real quick before we focus

4860
06:21:05,830 --> 06:21:04,160
the settings bravo seven counter two and

4861
06:21:08,628 --> 06:21:05,840
you're releasing it eight to eleven

4862
06:21:17,430 --> 06:21:10,868
yeah all right um

4863
06:21:22,628 --> 06:21:19,670

so both of them now in position with uh

4864

06:21:24,708 --> 06:21:22,638

pistol grip tools in hand or uh the

4865

06:21:27,670 --> 06:21:24,718

space drills power drills needed to

4866

06:21:29,350 --> 06:21:27,680

unbolt uh the support beams again each

4867

06:21:31,190 --> 06:21:29,360

of them have four bolts so they've

4868

06:21:33,270 --> 06:21:31,200

already completed two these will be the

4869

06:21:39,030 --> 06:21:33,280

remaining two and i will be the final

4870

06:21:39,040 --> 06:21:44,468

i'll hold it here until you get set

4871

06:21:53,110 --> 06:21:47,110

i copy charlie 3 released

4872

06:21:58,830 --> 06:21:56,868

copy 11 turns you're sewing your pgt

4873

06:22:01,590 --> 06:21:58,840

so you can help

4874

06:22:03,190 --> 06:22:01,600

shane release the beam and again shane

4875

06:22:08,230 --> 06:22:03,200

you'll be swinging it so it's parallel

4876

06:22:10,390 --> 06:22:09,270

okay

4877

06:22:13,350 --> 06:22:10,400

yeah i'm going to wait till you get over

4878

06:22:13,670 --> 06:22:13,360

there just so i don't have my

4879

06:22:16,628 --> 06:22:13,680

so rosa

4880

06:22:18,390 --> 06:22:16,638

don't want me to stop it from here

4881

06:22:20,468 --> 06:22:18,400

get in position next to me on my right

4882

06:22:22,070 --> 06:22:20,478

and then i'll pick it up and

4883

06:22:23,830 --> 06:22:22,080

swing it that way so we don't touch the

4884

06:22:25,030 --> 06:22:23,840

arosa

4885

06:22:26,948 --> 06:22:25,040

okay

4886

06:22:28,628 --> 06:22:26,958

right yeah because it actually helps me

4887

06:22:30,310 --> 06:22:28,638

when you even shave the motion as long

4888

06:22:32,788 --> 06:22:30,320

as you're subscribed but i could watch

4889

06:22:36,708 --> 06:22:34,310

so i'm moving

4890

06:22:38,948 --> 06:22:36,718

okay ground copies that's fine with us

4891

06:22:41,110 --> 06:22:38,958

tomai as a reminder you're translating

4892

06:23:00,390 --> 06:22:41,120

to stanchion alpha which is the other

4893

06:23:00,400 --> 06:23:22,260

five hours 11 minutes

4894

06:23:25,430 --> 06:23:23,590

[Music]

4895

06:23:28,390 --> 06:23:25,440

great views as the international space

4896

06:23:29,590 --> 06:23:28,400

station and uh the crew outside on the

4897

06:23:31,350 --> 06:23:29,600

left to map

4898

06:23:33,430 --> 06:23:31,360

on the right shane kimbrough cross over

4899

06:23:34,708 --> 06:23:33,440

the terminator line over the earth

4900

06:24:22,320 --> 06:23:34,718

they're in the middle of the pacific

4901
06:24:22,330 --> 06:24:29,750
[Music]

4902
06:24:29,760 --> 06:24:34,750
uh

4903
06:25:02,868 --> 06:24:42,468
[Music]

4904
06:25:11,910 --> 06:25:03,990
okay i'm ready

4905
06:25:11,920 --> 06:25:17,110
now let's towards the power

4906
06:25:17,120 --> 06:25:25,110
got it

4907
06:25:25,120 --> 06:25:28,468
i gotta come my way

4908
06:25:28,478 --> 06:25:32,600
and

4909
06:25:40,468 --> 06:25:35,390
[Music]

4910
06:25:45,430 --> 06:25:42,788
the keep in mind that the beam won't

4911
06:25:48,390 --> 06:25:45,440
reach the ends of the stanchion on each

4912
06:25:51,270 --> 06:25:48,400
side and you can hand start

4913
06:25:54,830 --> 06:25:51,280

charlie three for tomah and charlie five

4914

06:25:54,840 --> 06:25:59,280

each time

4915

06:25:59,290 --> 06:26:04,150

[Music]

4916

06:26:09,110 --> 06:26:06,948

support beam on the zenith side of their

4917

06:26:10,628 --> 06:26:09,120

side facing towards space a little bit

4918

06:26:12,628 --> 06:26:10,638

clearer now that we're in an orbital

4919

06:26:13,830 --> 06:26:12,638

daytime that support beam has been

4920

06:26:16,310 --> 06:26:13,840

removed

4921

06:26:24,310 --> 06:26:16,320

the duo will now work together to hand

4922

06:26:27,830 --> 06:26:25,990

after hand tightening they'll both use

4923

06:26:29,510 --> 06:26:27,840

the pistol grip tool to secure it in

4924

06:26:31,830 --> 06:26:29,520

that position then move over and do the

4925

06:26:34,070 --> 06:26:31,840

same thing with the nader beam

4926
06:26:52,150 --> 06:26:34,080
which is in a temporary stowed position

4927
06:26:56,948 --> 06:26:55,270
i'm not done sure

4928
06:27:13,030 --> 06:26:56,958
you're still in place yeah still i'm

4929
06:27:22,360 --> 06:27:15,590
i'll feel your engaging

4930
06:27:22,370 --> 06:27:26,150
[Music]

4931
06:27:30,788 --> 06:27:27,830
after swinging a little bit to see where

4932
06:27:32,310 --> 06:27:30,798
the hole is have to be my body position

4933
06:27:39,350 --> 06:27:32,320
cross control

4934
06:27:39,360 --> 06:27:43,990
i think

4935
06:27:44,000 --> 06:28:27,160
it's one minute

4936
06:28:27,170 --> 06:28:44,548
[Music]

4937
06:28:44,558 --> 06:28:48,150
we copy them

4938
06:28:48,160 --> 06:29:20,230

um

4939

06:29:20,240 --> 06:29:23,670

well done

4940

06:29:23,680 --> 06:29:30,468

it's engaged

4941

06:29:46,628 --> 06:29:32,070

you can get out your ptt's let me know

4942

06:29:46,638 --> 06:29:50,230

okay i'm ready for settings

4943

06:29:50,240 --> 06:29:59,270

alpha four clockwise two

4944

06:30:02,628 --> 06:30:00,800

that's before clockwise to

4945

06:30:04,468 --> 06:30:02,638

[Music]

4946

06:30:05,670 --> 06:30:04,478

set

4947

06:30:08,948 --> 06:30:05,680

good words

4948

06:30:15,430 --> 06:30:08,958

and shane you'll be driving charlie 5

4949

06:30:22,070 --> 06:30:19,830

okay alpha 4 clockwise 2

4950

06:30:36,830 --> 06:30:22,080

25 or so turns right

4951
06:30:36,840 --> 06:30:41,270

jenny hey from shane

4952
06:30:45,190 --> 06:30:43,510

kimbrough and pispay have removed the

4953
06:30:47,510 --> 06:30:45,200

zenith support beam the one that's

4954
06:30:49,830 --> 06:30:47,520

facing towards space and put it in its

4955
06:30:52,788 --> 06:30:49,840

stowed position they give

4956
06:30:54,070 --> 06:30:52,798

the bolts on each side one each one on

4957
06:30:56,548 --> 06:30:54,080

kimbrough side and the other on

4958
06:30:58,310 --> 06:30:56,558

pesquet's side gave it a few turns with

4959
06:30:59,510 --> 06:30:58,320

their hands now they're using the pistol

4960
06:31:14,468 --> 06:30:59,520

grip tool

4961
06:31:20,468 --> 06:31:16,868

copy shane did you say that was 4.9 or

4962
06:31:23,990 --> 06:31:20,478

24.9 turns

4963
06:31:24,000 --> 06:31:43,990

with good torque and green light copy

4964

06:31:47,830 --> 06:31:45,510

we're just talking that turn counts

4965

06:31:49,750 --> 06:31:47,840

pretty far off of what we were expecting

4966

06:31:59,590 --> 06:31:49,760

let me check if we want to go ahead and

4967

06:32:03,190 --> 06:32:01,430

in order to tell how many i did starting

4968

06:32:04,948 --> 06:32:03,200

but you know four or five was for the

4969

06:32:39,020 --> 06:32:04,958

most

4970

06:32:43,030 --> 06:32:41,190

[Music]

4971

06:32:44,868 --> 06:32:43,040

yeah we can see it in your helmet cam

4972

06:32:46,468 --> 06:32:44,878

thanks shane i think our first steps

4973

06:32:47,990 --> 06:32:46,478

here we're going to try a different body

4974

06:32:49,750 --> 06:32:48,000

position

4975

06:32:51,190 --> 06:32:49,760

so is there any adjustment that you can

4976
06:32:59,190 --> 06:32:51,200
make that makes you think you'd be able

4977
06:33:02,230 --> 06:33:00,948
uh now i'm on the holy handrail around

4978
06:33:04,230 --> 06:33:02,240
here

4979
06:33:24,230 --> 06:33:04,240
i think that's it all right coffee we

4980
06:33:28,868 --> 06:33:26,150
okay shane i have some additional steps

4981
06:33:32,150 --> 06:33:28,878
for you let's drive the bolt out one

4982
06:33:39,830 --> 06:33:32,160
turn at nominal torque the setting is

4983
06:33:43,590 --> 06:33:41,190
alpha four

4984
06:33:50,948 --> 06:33:43,600
counter to one turn

4985
06:33:54,390 --> 06:33:52,788
that's complete

4986
06:34:01,990 --> 06:33:54,400
re-attempt reattempt install

4987
06:34:17,750 --> 06:34:04,390
okay alpha four

4988
06:34:17,760 --> 06:34:22,310

green light

4989

06:34:22,320 --> 06:34:26,548

how many turns did you get shane

4990

06:34:30,150 --> 06:34:28,310

we've got one more turn there so i took

4991

06:34:36,390 --> 06:34:30,160

one out i put one in

4992

06:34:40,468 --> 06:34:37,910

shane we're going to have you increase

4993

06:34:42,310 --> 06:34:40,478

the torque to bravo 7 and stay at

4994

06:34:51,970 --> 06:34:42,320

clockwise 2.

4995

06:34:51,980 --> 06:35:00,070

[Music]

4996

06:35:00,080 --> 06:35:11,590

23 turns only

4997

06:35:11,600 --> 06:35:16,830

correction shane that's a total of 23

4998

06:35:16,840 --> 06:35:36,468

turns yeah

4999

06:35:46,150 --> 06:35:39,910

shane the updated turn count is 15 turns

5000

06:36:01,830 --> 06:35:49,190

okay i just did uh 17 turns there before

5001
06:36:15,510 --> 06:36:04,230
copy you got 17 turns on the bolt shane

5002
06:36:20,468 --> 06:36:18,230
so as we come up on a short handover we

5003
06:36:21,990 --> 06:36:20,478
might be losing the views from station

5004
06:36:24,868 --> 06:36:22,000
soon there we go

5005
06:36:27,670 --> 06:36:24,878
um the crew was working on stowing a

5006
06:36:30,708 --> 06:36:27,680
support beam which was actually across

5007
06:36:32,390 --> 06:36:30,718
the irosa keeping it in place on the

5008
06:36:34,150 --> 06:36:32,400
flight support equipment there were two

5009
06:36:36,310 --> 06:36:34,160
beams they removed one and put it in a

5010
06:36:38,390 --> 06:36:36,320
temporary stow position the one they

5011
06:36:40,390 --> 06:36:38,400
were just working on was the second one

5012
06:36:42,230 --> 06:36:40,400
that they removed they're putting it in

5013
06:36:44,628 --> 06:36:42,240

a more permanent position bolting it

5014

06:36:47,030 --> 06:36:44,638

down out of the way uh just getting some

5015

06:36:49,590 --> 06:36:47,040

steps ahead of uh

5016

06:36:52,868 --> 06:36:49,600

essentially getting ready for the next

5017

06:36:55,510 --> 06:36:52,878

spacewalk now tentatively scheduled for

5018

06:36:57,430 --> 06:36:55,520

june 25th that's when they will actually

5019

06:36:58,948 --> 06:36:57,440

remove the solar array and move it to

5020

06:37:00,548 --> 06:36:58,958

the 4b channel

5021

06:37:02,948 --> 06:37:00,558

but they were just working on

5022

06:37:05,350 --> 06:37:02,958

troubleshooting bolting it down in place

5023

06:37:07,750 --> 06:37:05,360

now that it was off from the blanket

5024

06:37:10,070 --> 06:37:07,760

itself seems like that worked we'll get

5025

06:37:12,788 --> 06:37:10,080

confirmation from the ground teams 17

5026
06:37:15,670 --> 06:37:12,798
turns at bravo 7 chain we're going to

5027
06:37:17,670 --> 06:37:15,680
set the pgt back to alpha 4

5028
06:37:30,150 --> 06:37:17,680
and see if we can get any more turns on

5029
06:37:34,468 --> 06:37:32,230
alpha 4

5030
06:37:43,590 --> 06:37:34,478
blacklight 2

5031
06:37:43,600 --> 06:38:03,830
now

5032
06:38:07,430 --> 06:38:05,510
all right we're satisfied that that bolt

5033
06:38:09,750 --> 06:38:07,440
is where we want it to be now tomorrow

5034
06:38:11,510 --> 06:38:09,760
we're gonna try your bolts let's try the

5035
06:38:14,150 --> 06:38:11,520
original settings

5036
06:38:19,990 --> 06:38:14,160
of alpha four clockwise two and see how

5037
06:38:24,070 --> 06:38:23,270
i doing another bolt here is that it

5038
06:38:26,070 --> 06:38:24,080

nope

5039

06:38:30,390 --> 06:38:26,080

you are only driving charlie five you

5040

06:38:34,310 --> 06:38:32,548

alpha four calculates two journey for

5041

06:38:47,430 --> 06:38:34,320

charlie

5042

06:38:52,150 --> 06:38:50,150

so again a re-attempt of driving that

5043

06:38:55,270 --> 06:38:52,160

bolt to secure the support beam out of

5044

06:38:58,150 --> 06:38:55,280

the way uh and allow the astronauts to

5045

06:38:59,990 --> 06:38:58,160

go back out and grab the irosa on a

5046

06:39:01,910 --> 06:39:00,000

future spacewalk that

5047

06:39:05,110 --> 06:39:01,920

bolt on shane's side seemed to do the

5048

06:39:07,110 --> 06:39:05,120

trick now we'll go back over to uh tomah

5049

06:39:08,868 --> 06:39:07,120

pesquet's side and drive that bolt they

5050

06:39:11,320 --> 06:39:08,878

only need to drive one bolt each to

5051

06:39:16,150 --> 06:39:11,330

secure it in place

5052

06:39:21,030 --> 06:39:17,990

at nine pounds it looks like a

5053

06:39:22,868 --> 06:39:21,040

comparison fault is halfway through copy

5054

06:39:29,990 --> 06:39:22,878

nine turns twerked out green light and

5055

06:39:34,868 --> 06:39:32,230

shane you can retrieve the pit pin from

5056

06:39:46,070 --> 06:39:34,878

the stowage location and push the c2

5057

06:39:51,190 --> 06:39:49,190

all right what am i throwing again so

5058

06:39:54,060 --> 06:39:51,200

i got the fifth down but what am i doing

5059

06:39:55,990 --> 06:39:54,070

you're stowing the charlie two bolts

5060

06:39:59,110 --> 06:39:56,000

[Music]

5061

06:40:01,030 --> 06:39:59,120

this guy yeah yep that's right push it

5062

06:40:02,150 --> 06:40:01,040

inside of the can and then install the

5063

06:40:03,190 --> 06:40:02,160

pit pin

5064

06:40:11,270 --> 06:40:03,200

straight

5065

06:40:20,310 --> 06:40:12,708

okay jenny

5066

06:40:26,708 --> 06:40:22,628

we're checking on settings for you come

5067

06:40:30,868 --> 06:40:29,510

you can set bravo 7 on your pgt tomorrow

5068

06:40:37,830 --> 06:40:30,878

we're talking the number of turns to

5069

06:40:37,840 --> 06:40:43,830

things installed jenny

5070

06:40:54,150 --> 06:40:47,510

so bravo seven clockwise two tomah

5071

06:41:14,868 --> 06:40:56,468

seven correction

5072

06:41:14,878 --> 06:41:18,310

good i'm good

5073

06:41:18,320 --> 06:41:30,548

hang it up

5074

06:41:43,530 --> 06:41:32,310

is driving that bolt you can translate

5075

06:41:43,540 --> 06:41:49,190

[Music]

5076
06:41:52,788 --> 06:41:51,430
it's not all the way the vault is not

5077
06:42:00,548 --> 06:41:52,798
all the way in

5078
06:42:04,548 --> 06:42:02,708
let's change to

5079
06:42:06,070 --> 06:42:04,558
alpha four

5080
06:42:15,910 --> 06:42:06,080
clockwise two

5081
06:42:15,920 --> 06:42:19,890
alpha clockwise

5082
06:42:29,830 --> 06:42:22,850
[Music]

5083
06:42:29,840 --> 06:42:33,590
right away

5084
06:42:38,628 --> 06:42:36,070
pesky uh continuing to work on that last

5085
06:42:41,270 --> 06:42:38,638
bolt kimbrough completed the bolt on his

5086
06:42:43,430 --> 06:42:41,280
side to secure that beam

5087
06:42:44,948 --> 06:42:43,440
to the flight support equipment

5088
06:42:46,468 --> 06:42:44,958

under one turn and a green light it

5089

06:42:48,708 --> 06:42:46,478

twerks out right away

5090

06:42:50,468 --> 06:42:48,718

pesquet working on getting this final

5091

06:42:52,788 --> 06:42:50,478

bolt secured in the meantime kimbrough

5092

06:42:55,190 --> 06:42:52,798

moving over to the other beam

5093

06:42:58,310 --> 06:42:55,200

now in a temporary stowed position

5094

06:43:00,788 --> 06:42:58,320

he'll uh begin the process of uh moving

5095

06:43:03,270 --> 06:43:00,798

the beam over to a very similar

5096

06:43:26,868 --> 06:43:03,280

configuration to bolt it in place on the

5097

06:43:41,030 --> 06:43:29,270

we're going to have you change your pgt

5098

06:43:45,990 --> 06:43:43,590

another bulb clockwise two talking of

5099

06:44:17,190 --> 06:43:46,000

the boat

5100

06:44:22,708 --> 06:44:19,990

5.4 turns green light and twerked out

5101
06:44:24,468 --> 06:44:22,718
copy tomah you can stow your pgt and

5102
06:44:34,310 --> 06:44:24,478
then you'll be retrieving the pit pin to

5103
06:44:39,110 --> 06:44:36,230
shane i don't have next steps for you

5104
06:44:43,750 --> 06:44:39,120
yet you're just going to be standing by

5105
06:44:45,430 --> 06:44:43,760
at that stanchion for tomah to pass you

5106
06:44:47,350 --> 06:44:45,440
the first beam that you removed and then

5107
06:45:46,548 --> 06:44:47,360
you guys will do the temp stow on the

5108
06:46:02,948 --> 06:45:49,110
bye

5109
06:46:02,958 --> 06:46:09,110
just pull it

5110
06:46:09,120 --> 06:46:23,350
okay that's coming

5111
06:46:25,910 --> 06:46:25,110
if that was a question about actuating

5112
06:46:27,670 --> 06:46:25,920
the

5113
06:46:30,868 --> 06:46:27,680

pit pin you can push

5114

06:47:03,830 --> 06:46:30,878

or pull on the top of the pit pin to

5115

06:47:03,840 --> 06:47:09,110

delta nader outboard

5116

06:47:37,030 --> 06:47:11,990

meteor outboard station delta shane i'm

5117

06:47:43,510 --> 06:47:39,750

big picture for both of you we're at a

5118

06:48:06,150 --> 06:47:43,520

pet of 5 hours and 30 minutes

5119

06:48:06,160 --> 06:48:13,120

all right

5120

06:48:13,130 --> 06:48:21,110

[Music]

5121

06:48:25,110 --> 06:48:22,708

you can retrieve the beam from the

5122

06:48:27,670 --> 06:48:25,120

grapple tower handrail

5123

06:48:29,910 --> 06:48:27,680

you'll start by retrieving the red hook

5124

06:48:31,030 --> 06:48:29,920

from the tower lower hand rail stanchion

5125

06:48:38,400 --> 06:48:31,040

and attaching it to your mini

5126
06:48:38,410 --> 06:48:46,390

[Music]

5127
06:48:49,830 --> 06:48:48,390
okay so retrieve

5128
06:48:52,230 --> 06:48:49,840
the hook from the lower end around

5129
06:49:12,310 --> 06:48:52,240
putting it on my mini workstation

5130
06:49:17,030 --> 06:49:15,270
pesquet completing bolting down the beam

5131
06:49:22,310 --> 06:49:17,040
on the other side of the flight support

5132
06:49:26,628 --> 06:49:24,628
they'll be working on doing the same

5133
06:49:28,390 --> 06:49:26,638
thing with the support beam on the other

5134
06:49:30,948 --> 06:49:28,400
side securing it down

5135
06:49:32,708 --> 06:49:30,958
with a series of bolts one on each side

5136
06:49:35,030 --> 06:49:32,718
on your mini workstation

5137
06:49:36,548 --> 06:49:35,040
you'll stow the red hook from the upper

5138
06:49:38,230 --> 06:49:36,558

handrail stanchion

5139

06:49:40,150 --> 06:49:38,240

and leave it attached to the beam

5140

06:49:44,830 --> 06:49:40,160

handrail you'll be sending that back to

5141

06:49:51,270 --> 06:49:48,150

beam i will uh retrieve the hook from

5142

06:49:54,468 --> 06:49:51,280

the upper extension and sew it back to

5143

06:49:57,990 --> 06:49:56,150

copy yep that's right so that'll be

5144

06:50:23,990 --> 06:49:58,000

completely on the beam and shane can

5145

06:50:26,868 --> 06:50:25,990

copy now you can pass that end of the

5146

06:50:28,390 --> 06:50:26,878

beam

5147

06:50:30,390 --> 06:50:28,400

to shane

5148

06:50:31,990 --> 06:50:30,400

you'll be installing this beam in the

5149

06:50:42,948 --> 06:50:32,000

stowage location

5150

06:50:52,390 --> 06:50:44,708

since you're ready i'm gonna go behind

5151
06:50:52,400 --> 06:51:02,310
and pass here

5152
06:51:05,030 --> 06:51:03,750
i'll bring it down

5153
06:51:07,590 --> 06:51:05,040
thank you

5154
06:51:09,270 --> 06:51:07,600
there you go okay i have it got it yep

5155
06:51:11,430 --> 06:51:09,280
yep how enough should i go and move a

5156
06:51:13,270 --> 06:51:11,440
little bit okay i have control okay you

5157
06:51:15,030 --> 06:51:13,280
have control good

5158
06:51:16,788 --> 06:51:15,040
have a red on it

5159
06:51:17,670 --> 06:51:16,798
okay

5160
06:51:23,430 --> 06:51:17,680
good

5161
06:51:24,708 --> 06:51:23,440
following just like the other one

5162
06:51:26,230 --> 06:51:24,718
yes

5163
06:51:27,990 --> 06:51:26,240

um

5164

06:51:29,510 --> 06:51:28,000

you have to put it in position because

5165

06:51:31,190 --> 06:51:29,520

it's not aligned it's here it's not i

5166

06:51:33,270 --> 06:51:31,200

was waiting for you to get checked okay

5167

06:51:35,910 --> 06:51:33,280

i have a line on it i'm trying to

5168

06:51:37,510 --> 06:51:35,920

maintain stable so you can pretty much

5169

06:51:39,910 --> 06:51:37,520

yeah

5170

06:51:42,310 --> 06:51:39,920

it's kind of on the platform there now

5171

06:51:43,670 --> 06:51:42,320

much towards you i think though and now

5172

06:52:18,390 --> 06:51:43,680

hold it right there if you don't like

5173

06:52:22,788 --> 06:52:20,788

i got mine started guys

5174

06:52:23,830 --> 06:52:22,798

uh you have control

5175

06:52:26,468 --> 06:52:23,840

um

5176

06:52:38,230 --> 06:52:26,478

hello sure all right control okay

5177

06:52:44,948 --> 06:52:40,310

yeah i have mine started with uh three

5178

06:52:54,150 --> 06:52:47,990

let me get my red off of here

5179

06:52:57,830 --> 06:52:56,230

we're ready for pgg hey guys you got

5180

06:53:00,230 --> 06:52:57,840

drew for a few minutes uh jenny's

5181

06:53:03,030 --> 06:53:00,240

stepping off pgt's we're going to start

5182

06:53:08,710 --> 06:53:03,040

with the nominal settings alpha 4

5183

06:53:14,468 --> 06:53:09,910

[Music]

5184

06:53:14,478 --> 06:53:18,070

go ahead

5185

06:53:22,310 --> 06:53:20,070

so same deal as the other side the

5186

06:53:23,350 --> 06:53:22,320

support beam that was running across the

5187

06:53:26,150 --> 06:53:23,360

uh

5188

06:53:27,750 --> 06:53:26,160

irosa now off to the side on the flight

5189

06:53:29,830 --> 06:53:27,760

support equipment

5190

06:53:32,310 --> 06:53:29,840

they got a hand start with the bolts on

5191

06:53:34,390 --> 06:53:32,320

each side of that beam one on kimbrough

5192

06:53:36,390 --> 06:53:34,400

side the other on pesquez they're now

5193

06:53:38,230 --> 06:53:36,400

using pistol grip tools to secure it in

5194

06:53:40,310 --> 06:53:38,240

place

5195

06:53:42,708 --> 06:53:40,320

clockwise two

5196

06:53:43,910 --> 06:53:42,718

we're still looking for 25 to 27 turns

5197

06:53:52,708 --> 06:53:43,920

to torque but you guys will have to let

5198

06:54:04,548 --> 06:53:54,150

you guys are

5199

06:54:09,190 --> 06:54:07,190

six and a half turns drew torched out

5200

06:54:14,628 --> 06:54:09,200

green light

5201
06:54:16,310 --> 06:54:14,638
we'll go straight to bravo seven shane

5202
06:54:46,868 --> 06:54:16,320
for you and

5203
06:54:46,878 --> 06:55:27,830
for c7 chain

5204
06:55:31,430 --> 06:55:28,990
yep

5205
06:55:33,110 --> 06:55:31,440
14.84 turns

5206
06:55:56,150 --> 06:55:33,120
green light

5207
06:55:59,990 --> 06:55:58,150
we'll start with alpha 4 let us know how

5208
06:56:15,270 --> 06:56:00,000
it goes and then likely we'll follow the

5209
06:56:19,830 --> 06:56:17,110
from the helmet camera view of shane

5210
06:56:25,590 --> 06:56:19,840
kimbrough you see he secured his end of

5211
06:56:38,868 --> 06:56:27,510
now pesquet doing the same thing on his

5212
06:56:44,468 --> 06:56:40,548
okay

5213
06:56:52,070 --> 06:56:44,478

and i'm talking now about 11 10 78

5214

06:56:58,390 --> 06:56:55,190

kapitama we'll have you move to bravo 7

5215

06:56:58,400 --> 06:57:01,830

level

5216

06:57:05,830 --> 06:57:03,430

we'll have you drive

5217

06:57:11,708 --> 06:57:05,840

drive to torque a firm and shane i'll

5218

06:57:11,718 --> 06:57:16,390

please look

5219

06:57:16,400 --> 06:57:35,750

copy good checks

5220

06:57:40,510 --> 06:57:37,030

all right

5221

06:57:43,628 --> 06:57:40,520

good talk green light

5222

06:57:48,390 --> 06:57:43,638

9.83 minus 483

5223

06:57:56,868 --> 06:57:52,310

copy 9.83 turns torqued out with a green

5224

06:58:17,400 --> 06:57:58,948

come on you can stow your pgt and i'll

5225

06:58:17,410 --> 06:58:21,670

[Music]

5226
06:58:37,510 --> 06:58:23,110
and then i'll have big picture words for

5227
06:58:41,270 --> 06:58:39,270
kimbrough and pesquet working on the

5228
06:58:44,230 --> 06:58:41,280
flight support equipment moving some

5229
06:58:46,310 --> 06:58:44,240
beams that were securing the irosa to

5230
06:58:48,868 --> 06:58:46,320
the flight support equipment there are

5231
06:58:51,190 --> 06:58:48,878
several more bolts uh still holding

5232
06:58:53,350 --> 06:58:51,200
irosa in place the teams here will

5233
06:58:55,590 --> 06:58:53,360
continue to evaluate the next steps

5234
06:58:58,468 --> 06:58:55,600
looking at the times and the consumables

5235
06:59:00,948 --> 06:58:58,478
in suit with bolts on the fse and the

5236
06:59:02,708 --> 06:59:00,958
lower eye rosa until the six hour mark

5237
06:59:06,230 --> 06:59:02,718
and then we'll reassess so that gives us

5238
06:59:09,830 --> 06:59:06,240

just over 10 minutes to work those bolts

5239

06:59:11,430 --> 06:59:09,840

tomah i have you at the crewlock bag to

5240

06:59:14,150 --> 06:59:11,440

do a socket swap

5241

06:59:23,990 --> 06:59:14,160

and shane you are at crewlock bag number

5242

06:59:29,030 --> 06:59:26,788

and just to clarify you guys we will uh

5243

06:59:31,030 --> 06:59:29,040

assess at six but if you have extra

5244

06:59:36,310 --> 06:59:31,040

input for us of course feel free to

5245

06:59:39,830 --> 06:59:37,990

yeah i mean tomorrow so either right now

5246

06:59:42,150 --> 06:59:39,840

we get time to break out or we just do

5247

06:59:45,590 --> 06:59:42,160

this for 10 minutes and break out i mean

5248

06:59:49,830 --> 06:59:48,150

we're still shooting for a 6 30 eva that

5249

06:59:53,030 --> 06:59:49,840

corrects

5250

06:59:57,750 --> 06:59:53,040

do you get another idea

5251
07:00:03,030 --> 06:59:59,750
very good breakout point that's going to

5252
07:00:05,750 --> 07:00:03,040
take us like 20 years maybe 30 minutes

5253
07:00:08,310 --> 07:00:05,760
to go back and clean up everything and

5254
07:00:10,310 --> 07:00:08,320
i gotta get an afro so

5255
07:00:12,310 --> 07:00:10,320
we got a good breakout point if we start

5256
07:00:18,150 --> 07:00:12,320
doing work and we have to stop in 10 or

5257
07:00:23,270 --> 07:00:20,868
okay with that uh we're very happy to

5258
07:00:25,750 --> 07:00:23,280
clean up we got a lot done today and we

5259
07:00:27,830 --> 07:00:25,760
think this was a big success so let's

5260
07:00:29,030 --> 07:00:27,840
start our worksite cleanup steps and

5261
07:00:30,150 --> 07:00:29,040
then we'll have you come inside and

5262
07:00:31,910 --> 07:00:30,160
you're right we're going to grab that

5263
07:00:35,750 --> 07:00:31,920

apfr and clean up our wires high at the

5264

07:00:39,350 --> 07:00:37,030

high coffee do you need that we're

5265

07:00:40,390 --> 07:00:39,360

cleaning up this worksite

5266

07:00:43,110 --> 07:00:40,400

and

5267

07:00:52,948 --> 07:00:43,120

we'll be heading back to yellow

5268

07:00:59,670 --> 07:00:56,948

so at five hours 49 minutes into today's

5269

07:01:02,150 --> 07:00:59,680

spacewalk teams on the ground evaluating

5270

07:01:04,070 --> 07:01:02,160

next steps with the crew on board who

5271

07:01:06,230 --> 07:01:04,080

successfully moved some of the support

5272

07:01:08,548 --> 07:01:06,240

beams that were holding the irosa in

5273

07:01:10,390 --> 07:01:08,558

place on the flight support equipment

5274

07:01:12,468 --> 07:01:10,400

there are more bolts that are securing

5275

07:01:14,868 --> 07:01:12,478

it in place plenty more to keep it nice

5276

07:01:16,548 --> 07:01:14,878

and secure for the next spacewalk

5277

07:01:19,430 --> 07:01:16,558

looking at some of the next steps they

5278

07:01:20,548 --> 07:01:19,440

are deciding to perform cleanup

5279

07:01:22,628 --> 07:01:20,558

activities

5280

07:01:25,590 --> 07:01:22,638

put all their tools in their respective

5281

07:01:28,708 --> 07:01:25,600

tool bags and make their way back to the

5282

07:01:31,350 --> 07:01:28,718

airlock for ingress

5283

07:01:32,948 --> 07:01:31,360

on the next spacewalk they'll come back

5284

07:01:35,110 --> 07:01:32,958

to the flight support equipment and

5285

07:01:37,670 --> 07:01:35,120

re-address and address some of the other

5286

07:01:38,830 --> 07:01:37,680

bolts that are securing irosa into place

5287

07:01:41,510 --> 07:01:38,840

and begin the

5288

07:01:43,510 --> 07:01:41,520

steps ready to see you guys next steps

5289

07:01:45,590 --> 07:01:43,520

uh you can both retrieve your respective

5290

07:01:49,910 --> 07:01:45,600

crew lock bags from the fse and stow

5291

07:01:58,788 --> 07:01:52,468

happy and that's work i'm working with

5292

07:02:02,548 --> 07:02:00,150

and the crew proceeding with those

5293

07:02:05,270 --> 07:02:02,558

cleanup activities they'll uh again

5294

07:02:06,868 --> 07:02:05,280

re-address or address some of the bolts

5295

07:02:08,948 --> 07:02:06,878

that are still securing

5296

07:02:11,510 --> 07:02:08,958

the irosa to the flight support

5297

07:02:13,110 --> 07:02:11,520

equipment on the next spacewalk and that

5298

07:02:14,948 --> 07:02:13,120

will remove it from the flight support

5299

07:02:16,788 --> 07:02:14,958

equipment and allow them to move it over

5300

07:02:20,948 --> 07:02:16,798

to the 4b channel for installation and

5301
07:02:24,310 --> 07:02:22,390
in the meantime though they'll clean up

5302
07:02:41,510 --> 07:02:24,320
from this work site and move in for

5303
07:02:48,830 --> 07:02:43,830
once you have your crew lock bags shane

5304
07:03:08,070 --> 07:02:52,070
okay well i have mine i'm gonna move you

5305
07:03:08,080 --> 07:03:59,030
copies

5306
07:04:07,910 --> 07:04:01,430
okay so now i'm gonna see the cart

5307
07:04:07,920 --> 07:04:14,468
we're working with

5308
07:04:14,478 --> 07:04:22,948
crt what

5309
07:04:22,958 --> 07:04:34,070
closed

5310
07:04:38,390 --> 07:04:35,430
behind me and i'm gonna find my

5311
07:04:50,468 --> 07:04:38,400
translation behind you okay

5312
07:04:50,478 --> 07:04:53,350
see here

5313
07:04:53,360 --> 07:05:11,910

i can clear your space each other

5314

07:05:11,920 --> 07:05:26,390

i got yours right here

5315

07:05:31,190 --> 07:05:29,110

as you follow shane inboard

5316

07:05:33,510 --> 07:05:31,200

remember you will be pressing the

5317

07:05:59,430 --> 07:05:33,520

inboard seat of brake release handles

5318

07:06:02,310 --> 07:06:00,788

i think they'll crack up with this

5319

07:06:06,868 --> 07:06:02,320

tomorrow maybe they'll work itself out

5320

07:06:06,878 --> 07:06:25,830

it shoot

5321

07:06:25,840 --> 07:06:47,590

happy tomorrow

5322

07:06:47,600 --> 07:07:43,190

oh

5323

07:07:48,548 --> 07:07:46,628

now first of yeah drake's pedal

5324

07:07:53,030 --> 07:07:48,558

on the inboard

5325

07:08:31,110 --> 07:07:54,468

good word stoma

5326

07:08:36,070 --> 07:08:32,948

shane kimbrough leading the way from the

5327

07:08:38,948 --> 07:08:36,080

works work site uh tailed very closely

5328

07:08:41,670 --> 07:08:38,958

by thomas pesquet both of them in tow

5329

07:08:43,830 --> 07:08:41,680

have crew lock bags or equipment bags

5330

07:08:46,150 --> 07:08:43,840

tool bags that they'll be taking with

5331

07:08:48,628 --> 07:08:46,160

them back into the airlock

5332

07:08:51,590 --> 07:08:48,638

they've completed their tasks for today

5333

07:08:54,948 --> 07:08:51,600

installing a new irosa or solar array on

5334

07:08:56,788 --> 07:08:54,958

the 2b channel and deploying it

5335

07:08:58,868 --> 07:08:56,798

they started some of the prep work for

5336

07:09:02,150 --> 07:08:58,878

the work site on the other side of the

5337

07:09:05,110 --> 07:09:02,160

port 6 trust the 4b work site and they

5338

07:09:08,230 --> 07:09:05,120

started to unbolt some of the beams that

5339

07:09:10,788 --> 07:09:08,240

are securing the next irosa which will

5340

07:09:12,868 --> 07:09:10,798

be installed on the 4b channel from the

5341

07:09:15,670 --> 07:09:12,878

flight support equipment in preparation

5342

07:09:18,788 --> 07:09:15,680

for some of the work on a future eva

5343

07:09:20,548 --> 07:09:18,798

tentatively scheduled for june 25th to

5344

07:09:22,310 --> 07:09:20,558

complete the installation of the 4b

5345

07:09:24,310 --> 07:09:22,320

channel again they are now making their

5346

07:09:49,030 --> 07:09:24,320

way back into the airlock to complete

5347

07:09:49,040 --> 07:09:53,990

crossover i can do this here

5348

07:10:00,468 --> 07:09:56,468

look over the mark and then

5349

07:10:06,548 --> 07:10:02,150

sure tama that sounds like a good plan

5350

07:10:06,558 --> 07:10:09,030

okay

5351
07:10:13,670 --> 07:10:11,590
we work

5352
07:10:16,310 --> 07:10:13,680
my right way is better

5353
07:10:20,868 --> 07:10:16,320
lock black on black

5354
07:10:24,468 --> 07:10:22,628
go ahead and

5355
07:10:25,590 --> 07:10:24,478
connect

5356
07:10:26,948 --> 07:10:25,600
price

5357
07:10:43,990 --> 07:10:26,958
if you won

5358
07:10:52,628 --> 07:10:47,510
that's a good number tomorrow

5359
07:11:09,270 --> 07:10:56,230
i'm gonna see this for tomorrow jimmy

5360
07:11:14,468 --> 07:11:13,110
okay you won adventure hook

5361
07:11:17,110 --> 07:11:14,478
five icon3652

5362
07:11:20,310 --> 07:11:17,120
box like on black i'm gonna go ahead and

5363
07:11:22,788 --> 07:11:20,320

check that change ev2 and kahoot three

5364

07:11:24,390 --> 07:11:22,798

six five one lost black on black

5365

07:11:26,390 --> 07:11:24,400

i retrieve my

5366

07:11:29,110 --> 07:11:26,400

local feather and uh

5367

07:11:31,670 --> 07:11:29,120

my way to the other journey

5368

07:11:33,430 --> 07:11:31,680

we agree that's a good config tomah

5369

07:11:35,510 --> 07:11:33,440

shane we see you nearly back at the

5370

07:11:40,830 --> 07:11:35,520

airlock you'll be fair leading on

5371

07:11:40,840 --> 07:12:24,810

thanks copy that's right here

5372

07:12:24,820 --> 07:12:29,830

[Music]

5373

07:12:33,190 --> 07:12:31,590

as a reminder

5374

07:12:35,910 --> 07:12:33,200

you'll be

5375

07:12:38,070 --> 07:12:35,920

removing the wire tie which is holding

5376
07:12:46,628 --> 07:12:38,080
the thermal cover in place and stowing

5377
07:12:50,310 --> 07:12:48,468
correction i'm just hearing we can leave

5378
07:12:52,868 --> 07:12:50,320
that wire tie in place

5379
07:12:57,110 --> 07:12:52,878
so in place with three twists

5380
07:12:57,120 --> 07:13:01,590
okay perfect

5381
07:13:06,468 --> 07:13:04,310
the airlock now i'm gonna go in first

5382
07:13:08,310 --> 07:13:06,478
and hook up with the uh safety set of

5383
07:13:10,150 --> 07:13:08,320
the waist are they correct

5384
07:13:12,230 --> 07:13:10,160
a-firm your first step is to attach your

5385
07:13:14,070 --> 07:13:12,240
waste tether to the airlock d-ring

5386
07:13:19,350 --> 07:13:14,080
extender waste tether

5387
07:13:24,150 --> 07:13:21,670
and then hooks am at the top of the csp

5388
07:13:33,990 --> 07:13:24,160

making my way to your lock

5389

07:13:39,830 --> 07:13:36,708

shane kimbrough already at the uh hatch

5390

07:13:42,070 --> 07:13:39,840

to the station's airlock

5391

07:13:43,670 --> 07:13:42,080

inside is the uh

5392

07:13:46,150 --> 07:13:43,680

crew lock and he'll be able to hook

5393

07:13:48,390 --> 07:13:46,160

himself up with umbilicals he'll be

5394

07:13:51,750 --> 07:13:48,400

carrying that crew lock bag or the tool

5395

07:13:54,468 --> 07:13:51,760

bag into the airlock with him

5396

07:13:55,750 --> 07:13:54,478

and he'll await for tomah pesquet to

5397

07:13:57,110 --> 07:13:55,760

come in right behind him you see him

5398

07:13:59,990 --> 07:13:57,120

coming into frame

5399

07:14:02,310 --> 07:14:00,000

now he'll take the position of going in

5400

07:14:04,070 --> 07:14:02,320

last and he'll have the responsibility

5401
07:14:06,150 --> 07:14:04,080
of closing the thermal cover and the

5402
07:14:13,300 --> 07:14:06,160
hatch we're now a little more than six

5403
07:14:16,948 --> 07:14:15,030
[Music]

5404
07:14:19,110 --> 07:14:16,958
tomorrow spacewalk jimmy

5405
07:14:21,190 --> 07:14:19,120
for ev2 i have my waist heather on the

5406
07:14:23,030 --> 07:14:21,200
airlock race tether

5407
07:14:26,390 --> 07:14:23,040
closed and locked

5408
07:14:42,770 --> 07:14:28,070
puppy shane that's a good load pass back

5409
07:14:42,780 --> 07:14:51,910
[Applause]

5410
07:14:51,920 --> 07:15:00,150
uh

5411
07:15:25,590 --> 07:15:02,150
and i'm right there jaildoc

5412
07:15:30,150 --> 07:15:28,070
just about to let you guys know uh the

5413
07:15:32,230 --> 07:15:30,160

helmet lights on tomah

5414

07:15:33,510 --> 07:15:32,240

as shane said those are also off we are

5415

07:15:35,190 --> 07:15:33,520

not going to take the time to

5416

07:15:40,310 --> 07:15:35,200

troubleshoot that now obviously we're

5417

07:15:44,230 --> 07:15:42,070

okay

5418

07:15:53,990 --> 07:15:44,240

five minutes off i didn't get it there

5419

07:15:58,548 --> 07:15:56,070

okay that's the kids i got it in the

5420

07:16:00,628 --> 07:15:58,558

airlock now here comes your rat

5421

07:16:02,468 --> 07:16:00,638

got it sorry

5422

07:16:05,590 --> 07:16:02,478

okay

5423

07:16:11,910 --> 07:16:06,948

jenny do you want me to work on the

5424

07:16:15,910 --> 07:16:13,830

uh to my it's going to be your choice if

5425

07:16:17,110 --> 07:16:15,920

you think you can get the apfr at this

5426

07:16:19,350 --> 07:16:17,120

point with your

5427

07:16:22,548 --> 07:16:19,360

your lights you can do it we're going to

5428

07:16:24,788 --> 07:16:22,558

leave it up to you

5429

07:16:25,750 --> 07:16:24,798

um

5430

07:16:27,990 --> 07:16:25,760

well

5431

07:16:30,390 --> 07:16:28,000

probably it's kind of free floating and

5432

07:16:33,430 --> 07:16:30,400

you know that makes a nice fast now so i

5433

07:16:39,590 --> 07:16:33,440

don't think it's a good idea jenny

5434

07:16:43,430 --> 07:16:41,750

we understand uh that's fine with us

5435

07:16:45,510 --> 07:16:43,440

let's move on to the tether config let

5436

07:16:58,868 --> 07:16:45,520

me know when you're ready shane you can

5437

07:16:58,878 --> 07:17:07,590

so that's all connected

5438

07:17:11,910 --> 07:17:09,750

and if you like bags of both

5439

07:17:12,868 --> 07:17:11,920

attached to the airlock tomorrow yep

5440

07:17:16,708 --> 07:17:12,878

your

5441

07:17:19,110 --> 07:17:16,718

and hook

5442

07:17:22,070 --> 07:17:19,120

on your legs

5443

07:17:30,868 --> 07:17:22,080

and let me get my hair cut here

5444

07:17:38,548 --> 07:17:33,910

30 seconds to hand over

5445

07:17:41,350 --> 07:17:39,990

tomorrow what do you want me to do

5446

07:17:43,110 --> 07:17:41,360

number two you're sitting together

5447

07:17:45,750 --> 07:17:43,120

behind your legs

5448

07:17:49,750 --> 07:17:45,760

so you want to come out uh what you can

5449

07:17:51,990 --> 07:17:49,760

do with just a 360 to your uh to your

5450

07:17:54,948 --> 07:17:52,000

left shoulder and i'll clear it to my

5451

07:17:58,708 --> 07:17:56,868

and you'll waste it out now

5452

07:18:07,430 --> 07:17:58,718

okay so

5453

07:18:11,590 --> 07:18:09,510

another temporary loss in video from the

5454

07:18:13,350 --> 07:18:11,600

international space station those views

5455

07:18:16,150 --> 07:18:13,360

you were seeing the international space

5456

07:18:18,468 --> 07:18:16,160

station flying 271 statute miles over

5457

07:18:21,350 --> 07:18:18,478

the south atlantic ocean just south off

5458

07:18:23,830 --> 07:18:21,360

the coast of south africa

5459

07:18:26,708 --> 07:18:23,840

as uh tomapesuke was entering into the

5460

07:18:28,708 --> 07:18:26,718

hatch you saw his camera assembly

5461

07:18:30,310 --> 07:18:28,718

start to be removed from the upper

5462

07:18:33,110 --> 07:18:30,320

portion of his

5463

07:18:36,788 --> 07:18:33,120

extra vehicular mobility unit this was

5464

07:18:38,708 --> 07:18:36,798

a similar issue we saw with the suit on

5465

07:18:41,910 --> 07:18:38,718

shane kimbrough earlier in today's

5466

07:18:43,990 --> 07:18:41,920

spacewalk pesquet was able to

5467

07:18:45,670 --> 07:18:44,000

use wire ties to secure the helmet

5468

07:18:46,868 --> 07:18:45,680

assembly for the remainder of the

5469

07:18:48,708 --> 07:18:46,878

spacewalk

5470

07:18:52,868 --> 07:18:48,718

now with that

5471

07:18:55,270 --> 07:18:52,878

camera assembly coming off of pesquez

5472

07:18:58,070 --> 07:18:55,280

emu or extra vehicular mobility unit

5473

07:19:01,270 --> 07:18:58,080

he'll be ingressing the airlock and

5474

07:19:07,910 --> 07:19:01,280

performing the remainder of these tasks

5475

07:19:12,868 --> 07:19:10,230

okay copy you'll be attaching shane's

5476
07:19:21,628 --> 07:19:12,878
green hook to the aft external airlock

5477
07:19:21,638 --> 07:19:35,350
okay from

5478
07:19:35,360 --> 07:19:50,868
this is

5479
07:19:50,878 --> 07:19:54,468
ring

5480
07:19:57,750 --> 07:19:56,468
danny i don't think i've seen my car

5481
07:20:01,750 --> 07:19:57,760
just uh

5482
07:20:06,220 --> 07:20:03,030
okay

5483
07:20:13,030 --> 07:20:06,230
i got chains green hook

5484
07:20:13,040 --> 07:20:19,670
[Music]

5485
07:20:39,430 --> 07:20:22,388
you can release shane's yellow hook and

5486
07:20:54,788 --> 07:20:41,670
and shane we are pretty sure we caught

5487
07:21:07,190 --> 07:21:00,230
thank you

5488
07:21:13,610 --> 07:21:09,830

on my red reel

5489

07:21:17,110 --> 07:21:14,830

[Music]

5490

07:21:19,110 --> 07:21:17,120

checks it takes a little bit more time

5491

07:21:24,468 --> 07:21:19,120

because every time i

5492

07:21:27,670 --> 07:21:26,708

to wait for them to settle and charge

5493

07:21:31,510 --> 07:21:27,680

anything

5494

07:21:31,520 --> 07:21:36,230

exchange yellow hook

5495

07:21:38,868 --> 07:21:37,910

oh my

5496

07:21:41,110 --> 07:21:38,878

one

5497

07:21:43,690 --> 07:21:41,120

green sorry red

5498

07:21:45,830 --> 07:21:43,700

bl change

5499

07:21:48,628 --> 07:21:45,840

[Music]

5500

07:21:50,468 --> 07:21:48,638

red wheel is unlocked

5501
07:21:52,948 --> 07:21:50,478

good checks

5502
07:22:04,390 --> 07:21:52,958

attach your green hook to the forward

5503
07:22:04,400 --> 07:22:09,670

[Music]

5504
07:22:13,270 --> 07:22:11,430

hey firm retrieve your yellow hook and

5505
07:22:20,990 --> 07:22:13,280

stow it on your mini workstation and

5506
07:22:21,000 --> 07:22:26,468

[Music]

5507
07:22:26,478 --> 07:22:33,510

hook

5508
07:22:33,520 --> 07:22:38,570

and do it again

5509
07:22:38,580 --> 07:22:45,910

[Music]

5510
07:22:55,830 --> 07:22:47,910

shane's green hook should be on the aft

5511
07:23:01,030 --> 07:22:57,670

and now i'm gonna go ahead and retrieve

5512
07:23:05,430 --> 07:23:03,270

uh

5513
07:23:07,430 --> 07:23:05,440

and my yellow hook

5514

07:23:20,830 --> 07:23:07,440

on my dream reel and put putting on my

5515

07:23:25,990 --> 07:23:24,388

yes that's a good tether config amount

5516

07:23:29,830 --> 07:23:26,000

then you can uh ingress a little bit

5517

07:23:34,230 --> 07:23:32,628

so i'm going to go ahead and english

5518

07:23:35,590 --> 07:23:34,240

you're happy with that i understand the

5519

07:23:36,420 --> 07:23:35,600

crew lock bags are already in the

5520

07:23:38,708 --> 07:23:36,430

airlock

5521

07:23:40,948 --> 07:23:38,718

[Music]

5522

07:23:42,030 --> 07:23:40,958

tomorrow i'll also get you to turn your

5523

07:23:46,788 --> 07:23:42,040

hecka

5524

07:23:51,910 --> 07:23:50,868

uh yeah i'm not gonna be able to do that

5525

07:23:53,590 --> 07:23:51,920

okay

5526
07:23:54,788 --> 07:23:53,600
once you get in maybe shane can do it

5527
07:24:05,350 --> 07:23:54,798
for me

5528
07:24:10,150 --> 07:24:07,670
those final checks before entering the

5529
07:24:12,150 --> 07:24:10,160
uh air lock uh were just to make sure

5530
07:24:14,310 --> 07:24:12,160
that the tether configuration was as

5531
07:24:17,110 --> 07:24:14,320
expected everything checks out so you

5532
07:24:18,948 --> 07:24:17,120
see tomah psk going in feet first uh

5533
07:24:21,830 --> 07:24:18,958
into the air lock that puts him in a

5534
07:24:23,510 --> 07:24:21,840
position to close the hatch on the other

5535
07:24:24,948 --> 07:24:23,520
side as well as a thermal cover he'll

5536
07:24:27,270 --> 07:24:24,958
pull that closed

5537
07:24:29,430 --> 07:24:27,280
and they'll begin the re-pressurization

5538
07:24:30,468 --> 07:24:29,440

sequence the official end of today's

5539

07:24:32,708 --> 07:24:30,478

spacewalk

5540

07:24:40,788 --> 07:24:32,718

will be when repressurization of the

5541

07:24:40,798 --> 07:24:44,468

i think there's something that blocks me

5542

07:24:44,478 --> 07:25:11,430

let's reset here we go

5543

07:25:15,990 --> 07:25:12,830

is called a local

5544

07:25:17,030 --> 07:25:16,000

feather all right that'll do it that was

5545

07:25:24,788 --> 07:25:17,040

good

5546

07:25:24,798 --> 07:25:27,350

all

5547

07:25:27,360 --> 07:25:31,110

nicely right

5548

07:25:36,788 --> 07:25:34,070

well done both chain and toma

5549

07:25:38,548 --> 07:25:36,798

go ahead and close the thermal cover

5550

07:25:41,270 --> 07:25:38,558

a firm you can close the hatch thermal

5551
07:25:46,708 --> 07:25:41,280
cover verify the forward hatch pin is

5552
07:25:52,548 --> 07:25:50,230
all right things engaged

5553
07:25:54,070 --> 07:25:52,558
copy close the thermal cover

5554
07:25:56,708 --> 07:25:54,080
attach the hook

5555
07:26:13,510 --> 07:25:56,718
to the magnetic plate d-ring and cinch

5556
07:26:13,520 --> 07:26:36,548
understood

5557
07:26:36,558 --> 07:26:52,468
hey foreign

5558
07:27:08,948 --> 07:26:55,430
hey firm shane you can hook up your scu2

5559
07:27:08,958 --> 07:28:23,910
all right

5560
07:28:28,788 --> 07:28:25,990
johnny the

5561
07:28:30,948 --> 07:28:28,798
festival is on the

5562
07:28:32,788 --> 07:28:30,958
thermal coverage hearing

5563
07:28:34,708 --> 07:28:32,798

concern that the magnets are

5564

07:28:35,990 --> 07:28:34,718

non-magnetic

5565

07:28:38,070 --> 07:28:36,000

uh

5566

07:28:41,670 --> 07:28:38,080

and i see

5567

07:28:44,310 --> 07:28:41,680

it's white lines sorry six black lines

5568

07:28:45,830 --> 07:28:44,320

copy the hook is on the magnetic plate

5569

07:28:49,190 --> 07:28:45,840

d-ring the

5570

07:29:15,030 --> 07:28:49,200

strap is snug and you see six lines

5571

07:29:20,788 --> 07:29:17,350

and evc is connected to svu but it's not

5572

07:29:30,160 --> 07:29:22,388

copy shane you say you're connected but

5573

07:29:30,170 --> 07:29:39,270

[Music]

5574

07:29:39,280 --> 07:29:50,468

shane we're talking it

5575

07:29:54,230 --> 07:29:52,548

nasa astronaut uh megan macarthur

5576
07:29:55,430 --> 07:29:54,240
standing by in the equipment lock on the

5577
07:29:56,548 --> 07:29:55,440
other side of the hatch that she's

5578
07:29:58,388 --> 07:29:56,558
looking through

5579
07:30:00,948 --> 07:29:58,398
are the two spacewalking astronauts of

5580
07:30:03,190 --> 07:30:00,958
today nasa astronaut shane kimbrough and

5581
07:30:05,830 --> 07:30:03,200
esa astronaut european space agency

5582
07:30:08,708 --> 07:30:05,840
astronaut tomopos k

5583
07:30:13,350 --> 07:30:08,718
copy to my you're on your scu

5584
07:30:17,190 --> 07:30:14,948
they're working through the ingress

5585
07:30:19,190 --> 07:30:17,200
procedures now making sure all their

5586
07:30:21,430 --> 07:30:19,200
suits are hooked up to the international

5587
07:30:23,750 --> 07:30:21,440
space station then they'll begin the

5588
07:30:25,990 --> 07:30:23,760

repressurization three sequence which

5589

07:30:27,830 --> 07:30:26,000

will be the official end time of today's

5590

07:30:29,030 --> 07:30:27,840

spacewalk

5591

07:30:37,670 --> 07:30:29,040

now at uh

5592

07:30:42,948 --> 07:30:40,150

i am not able to like it yet so this has

5593

07:30:45,270 --> 07:30:42,958

been the same problem the last tva and

5594

07:30:47,270 --> 07:30:45,280

um in the lse as well but

5595

07:30:49,430 --> 07:30:47,280

um eventually it locks this time but

5596

07:30:53,590 --> 07:30:49,440

this is not blocking

5597

07:30:53,600 --> 07:31:28,760

okay copy shane

5598

07:31:32,060 --> 07:31:31,030

[Music]

5599

07:31:34,230 --> 07:31:32,070

what's going on with you

5600

07:31:35,830 --> 07:31:34,240

[Music]

5601
07:31:37,990 --> 07:31:35,840
we'll have words for you guys soon right

5602
07:31:41,670 --> 07:31:38,000
here quick but again it just doesn't

5603
07:31:47,750 --> 07:31:44,830
uh no name jenny just got

5604
07:31:53,510 --> 07:31:47,760
it okay copy you just got it thanks

5605
07:31:58,708 --> 07:31:55,910
thanks for being patient

5606
07:32:05,110 --> 07:31:58,718
okay so understanding both of your seuss

5607
07:32:09,030 --> 07:32:07,350
hey real quick before we go um

5608
07:32:10,628 --> 07:32:09,040
the flight and capcom and all the other

5609
07:32:12,628 --> 07:32:10,638
dads in the room happy father's day

5610
07:32:15,590 --> 07:32:12,638
thanks for working with us

5611
07:32:16,548 --> 07:32:15,600
on a sunday

5612
07:32:18,468 --> 07:32:16,558
morning

5613
07:32:20,628 --> 07:32:18,478

and likewise we feel the same thank you

5614

07:32:22,708 --> 07:32:20,638

for working with us this was a

5615

07:32:24,388 --> 07:32:22,718

a great effort you guys did fantastic

5616

07:32:29,270 --> 07:32:24,398

out there also congrats to the team

5617

07:32:34,230 --> 07:32:31,190

all right now a note for both of you as

5618

07:32:37,110 --> 07:32:34,240

we continue to bring you inside a tcb

5619

07:32:38,948 --> 07:32:37,120

setting of eight max cold minimizes time

5620

07:32:40,628 --> 07:32:38,958

for seu cooling

5621

07:32:43,190 --> 07:32:40,638

with that you can both switch your

5622

07:32:56,310 --> 07:32:43,200

waters to off o f f

5623

07:33:33,110 --> 07:32:59,430

copy do not close hatch until emu water

5624

07:33:38,070 --> 07:33:35,670

as astronaut shane kimbrough uh wishing

5625

07:33:39,590 --> 07:33:38,080

a happy father's day to the teams here

5626
07:33:41,030 --> 07:33:39,600
in mission control houston all

5627
07:33:43,510 --> 07:33:41,040
contributing

5628
07:33:46,070 --> 07:33:43,520
to a successful spacewalk today

5629
07:33:48,548 --> 07:33:46,080
installing and deploying a brand new

5630
07:33:50,948 --> 07:33:48,558
solar array on the 2b power channel on

5631
07:33:52,388 --> 07:33:50,958
the port 6 truss of the international

5632
07:33:54,868 --> 07:33:52,398
space station

5633
07:33:56,788 --> 07:33:54,878
the duo are now inside the crew lock

5634
07:33:59,590 --> 07:33:56,798
going through the procedures

5635
07:34:02,070 --> 07:33:59,600
to the ingress procedures to

5636
07:34:03,670 --> 07:34:02,080
repressurize to the same pressure as the

5637
07:34:06,230 --> 07:34:03,680
international space station all the way

5638
07:34:08,948 --> 07:34:06,240

up to 14 pounds per square inch and

5639

07:34:13,030 --> 07:34:08,958

re-enter the international space station

5640

07:34:15,670 --> 07:34:13,040

officially ending today's spacewalk

5641

07:34:18,628 --> 07:34:15,680

you can verify the outer hatch is clear

5642

07:34:26,868 --> 07:34:18,638

of hardware and the handle position is

5643

07:34:26,878 --> 07:34:31,190

position

5644

07:35:06,230 --> 07:34:33,430

copy we'll hold first

5645

07:35:11,270 --> 07:35:08,948

all right there is our two minute timer

5646

07:35:16,868 --> 07:35:11,280

tomah you can close and lock the ev

5647

07:35:16,878 --> 07:35:32,210

work

5648

07:35:32,220 --> 07:35:36,230

[Music]

5649

07:35:36,240 --> 07:35:47,430

good

5650

07:35:47,440 --> 07:36:02,548

should be clear now stop clear

5651
07:36:05,590 --> 07:36:04,070
getting some last minute views from the

5652
07:36:09,190 --> 07:36:05,600
inside of the crew lock this is the

5653
07:36:11,750 --> 07:36:09,200
helmet camera of tomate it says job to

5654
07:36:14,310 --> 07:36:11,760
close the hatch

5655
07:36:15,990 --> 07:36:14,320
once the hatch is secure they'll undergo

5656
07:36:22,310 --> 07:36:16,000
a series of other steps before

5657
07:36:22,320 --> 07:36:26,868
awesome

5658
07:36:31,110 --> 07:36:28,628
and it's latched

5659
07:36:36,468 --> 07:36:31,120
and locked

5660
07:36:40,150 --> 07:36:36,478
shane on the uia

5661
07:36:45,750 --> 07:36:40,160
check oxygen emu 1 and 2 valves two of

5662
07:36:59,190 --> 07:36:49,510
both oxygen emv and two are open

5663
07:37:05,750 --> 07:37:02,670

our av-1 on our ev-2 on with two lights

5664

07:37:12,868 --> 07:37:05,760

18.6 volts

5665

07:37:29,490 --> 07:37:12,878

good number on your dcm switch power to

5666

07:37:32,708 --> 07:37:31,190

[Music]

5667

07:37:34,708 --> 07:37:32,718

you

5668

07:37:36,388 --> 07:37:34,718

copy with that i will hand it over to

5669

07:37:42,310 --> 07:37:36,398

your suit iv friends to continue

5670

07:37:45,190 --> 07:37:43,910

all right great job jenny great job

5671

07:37:47,670 --> 07:37:45,200

everyone i think it's great success

5672

07:37:49,190 --> 07:37:47,680

today we have a nice roller coaster roll

5673

07:37:56,628 --> 07:37:49,200

and looking forward to that on the

5674

07:38:01,350 --> 07:37:59,510

okay tama and shane great work ready to

5675

07:38:12,788 --> 07:38:01,360

bring you guys back in you can take your

5676
07:38:12,798 --> 07:38:18,070
going to cut

5677
07:38:18,080 --> 07:38:25,590
do actuator press ev2

5678
07:38:25,600 --> 07:38:42,948
working on it

5679
07:38:49,030 --> 07:38:44,708
shane you can oh sorry come on you can

5680
07:38:52,628 --> 07:38:50,230
megan

5681
07:38:54,388 --> 07:38:52,638
okay i'm going to throttle off to norm

5682
07:38:56,548 --> 07:38:54,398
if you need me to slow down or stop give

5683
07:39:06,370 --> 07:38:56,558
me hand signal as well as verbal in case

5684
07:39:06,380 --> 07:39:12,310
[Music]

5685
07:39:16,388 --> 07:39:14,388
you should expect an alert tone and when

5686
07:39:17,670 --> 07:39:16,398
you get to five

5687
07:39:28,310 --> 07:39:17,680
we're going to take the iv hatch

5688
07:39:28,320 --> 07:39:46,230

um

5689

07:39:46,240 --> 07:40:03,270

there you go

5690

07:40:09,670 --> 07:40:06,910

with that uh we're hearing it now a uh

5691

07:40:11,270 --> 07:40:09,680

repressurization of the airlock the crew

5692

07:40:14,150 --> 07:40:11,280

lock on the other side of the hatch that

5693

07:40:17,190 --> 07:40:14,160

you're seeing from this view is underway

5694

07:40:19,590 --> 07:40:17,200

that stops the clock at 6 hours and 28

5695

07:40:22,310 --> 07:40:19,600

minutes for a total elapsed time for

5696

07:40:28,430 --> 07:40:22,320

today's spacewalk the official end time

5697

07:40:32,388 --> 07:40:30,468

repressurization is looking good or a

5698

07:40:38,948 --> 07:40:32,398

little more than two pounds per square

5699

07:40:43,590 --> 07:40:41,430

just like when we depressurized the crew

5700

07:40:45,030 --> 07:40:43,600

lock we'll stop at about five pounds per

5701
07:40:47,190 --> 07:40:45,040
square inch and perform a leak check

5702
07:40:49,190 --> 07:40:47,200
make sure everything looks good before

5703
07:40:51,110 --> 07:40:49,200
proceeding to repress all the way up to

5704
07:40:53,350 --> 07:40:51,120
match the pressure of the international

5705
07:40:56,750 --> 07:40:53,360
space station just a little more than 14

5706
07:41:06,548 --> 07:40:56,760
pounds per square inch

5707
07:41:18,360 --> 07:41:10,470
you should expect an alert tone at 4.

5708
07:42:12,628 --> 07:42:02,510
[Applause]

5709
07:42:16,788 --> 07:42:15,110
okay we've paused here at five psi we're

5710
07:42:22,628 --> 07:42:16,798
going to wait two minutes for the crew

5711
07:42:26,310 --> 07:42:24,548
as planned we're now performing a leak

5712
07:42:27,750 --> 07:42:26,320
check at five pounds per square inch

5713
07:42:29,910 --> 07:42:27,760

make sure the pressure holds before

5714

07:42:31,750 --> 07:42:29,920

continuing back up to the station

5715

07:42:39,590 --> 07:42:31,760

pressure just a little bit more than 14

5716

07:42:42,310 --> 07:42:41,030

come on chain we're waiting two minutes

5717

07:42:45,110 --> 07:42:42,320

for the pressure to stabilize and then

5718

07:45:45,750 --> 07:42:45,120

we'll do a one minute leak check

5719

07:45:50,388 --> 07:45:47,910

come on chain we had a good leak check

5720

07:45:51,350 --> 07:45:50,398

uh you can switch your glove heaters off

5721

07:45:52,788 --> 07:45:51,360

gloves

5722

07:45:53,990 --> 07:45:52,798

are off

5723

07:45:56,548 --> 07:45:54,000

cb2

5724

07:45:58,830 --> 07:45:56,558

your gloves for contamination

5725

07:46:01,830 --> 07:45:58,840

nothing all good for

5726

07:46:21,750 --> 07:46:01,840

everyone okay you can take your o2

5727

07:46:25,990 --> 07:46:24,150

okay you both have o2 actuator to iv i'm

5728

07:46:28,788 --> 07:46:26,000

going to take the iv hatch equalization

5729

07:46:30,548 --> 07:46:28,798

valve throttling to norm you can expect

5730

07:46:34,390 --> 07:46:30,558

an alert tone

5731

07:46:56,230 --> 07:46:54,388

[Applause]

5732

07:46:58,150 --> 07:46:56,240

and we had a good leak check at five

5733

07:47:01,110 --> 07:46:58,160

pounds per square inch everything looks

5734

07:47:02,788 --> 07:47:01,120

good uh from the crew lock side and from

5735

07:47:05,350 --> 07:47:02,798

the equipment lock side where our three

5736

07:47:07,430 --> 07:47:05,360

us os astronauts are waiting from left

5737

07:47:09,990 --> 07:47:07,440

to right we have mark vande nasa

5738

07:47:11,830 --> 07:47:10,000

astronaut aki hoshide jaxa astronaut

5739

07:47:12,868 --> 07:47:11,840

from the japan aerospace exploration

5740

07:47:14,388 --> 07:47:12,878

agency

5741

07:47:16,788 --> 07:47:14,398

and in the background there megan

5742

07:47:19,030 --> 07:47:16,798

macarthur nasa astronaut who's the lead

5743

07:47:22,310 --> 07:47:19,040

uh talking with the crew on the other

5744

07:47:23,990 --> 07:47:22,320

side uh shane kimbrough and uh tomorrow

5745

07:47:26,150 --> 07:47:24,000

pesquet re-pressure

5746

07:47:27,910 --> 07:47:26,160

pressurization again is underway we're

5747

07:47:29,830 --> 07:47:27,920

coming up on seven pounds per square

5748

07:47:32,468 --> 07:47:29,840

inch we got some statistics for you for

5749

07:47:35,190 --> 07:47:32,478

today's uh six hour and twenty minute

5750

07:47:37,350 --> 07:47:35,200

spacewalk it was the 240th

5751
07:47:39,750 --> 07:47:37,360
space walk in support of international

5752
07:47:42,548 --> 07:47:39,760
space station assembly maintenance and

5753
07:47:44,868 --> 07:47:42,558
upgrades started at 6 42 a.m central

5754
07:47:46,868 --> 07:47:44,878
time today ended at 1 10. it was the

5755
07:47:49,510 --> 07:47:46,878
eighth space walk conducted this year

5756
07:47:52,310 --> 07:47:49,520
2021 the fourth of pesquet's career

5757
07:47:54,788 --> 07:47:52,320
totaling 26 hours and 15 minutes in his

5758
07:47:57,750 --> 07:47:54,798
career it was the eighth for kimbrough

5759
07:48:01,110 --> 07:47:57,760
totaling 52 hours and 43 minutes and put

5760
07:48:03,830 --> 07:48:01,120
some on the 11th of all time eva

5761
07:48:06,230 --> 07:48:03,840
total hours in his career

5762
07:48:08,788 --> 07:48:06,240
today's spacewalk again lasted 6 hours

5763
07:48:11,670 --> 07:48:08,798

and 28 minutes

5764

07:48:15,590 --> 07:48:11,680

and of course all of the spacewalks for

5765

07:48:18,788 --> 07:48:15,600

the 240 evas of support of iss assembly

5766

07:48:22,170 --> 07:48:18,798

maintenance and upgrades totals 63 days

5767

07:48:24,468 --> 07:48:22,180

zero hours and 56 minutes

5768

07:48:26,628 --> 07:48:24,478

[Applause]

5769

07:48:29,590 --> 07:48:26,638

in addition this was the third spacewalk

5770

07:48:31,260 --> 07:48:29,600

for expedition 65 totaling at 21 hours

5771

07:48:39,110 --> 07:48:31,270

and two minutes

5772

07:48:41,190 --> 07:48:39,120

[Applause]

5773

07:48:42,948 --> 07:48:41,200

repressurization continuing to look good

5774

07:48:44,548 --> 07:48:42,958

we're now a little bit more than nine

5775

07:48:46,388 --> 07:48:44,558

pounds per square inch again we're

5776
07:48:47,960 --> 07:48:46,398
heading to just a little bit more than

5777
07:50:18,548 --> 07:48:47,970
14.

5778
07:50:26,788 --> 07:50:20,788
coming up on a little more than 13

5779
07:50:26,798 --> 07:51:16,468
you can expect an alert sounds

5780
07:51:19,190 --> 07:51:17,830
okay guys i'm getting ready to open the

5781
07:51:21,190 --> 07:51:19,200
hatchet be advised though we have a

5782
07:51:24,468 --> 07:51:21,200
couple of delta steps just to document

5783
07:51:26,388 --> 07:51:24,478
uh shane's helmet erka config so um

5784
07:51:28,230 --> 07:51:26,398
it'll be a little different than normal

5785
07:51:30,548 --> 07:51:28,240
uh we'll be documenting both of your

5786
07:51:32,070 --> 07:51:30,558
urka configs so just bear with us we'll

5787
07:51:33,590 --> 07:51:32,080
get you into the edits and out of your

5788
07:51:38,150 --> 07:51:33,600

suits as soon as you can

5789

07:51:54,270 --> 07:51:40,070

that was crazy

5790

07:51:58,548 --> 07:51:56,310

[Music]

5791

07:52:02,388 --> 07:51:58,558

oh thank you man that was amazing i hope

5792

07:52:07,030 --> 07:52:05,110

it's red

5793

07:52:08,310 --> 07:52:07,040

let's see that as i was starting to

5794

07:52:11,110 --> 07:52:08,320

translate or something i was like oh

5795

07:52:14,708 --> 07:52:11,120

crap safety tethers around my head

5796

07:52:22,070 --> 07:52:14,718

you know i just kept seeing it all day

5797

07:52:27,110 --> 07:52:24,230

all right that's what's coming up

5798

07:52:32,468 --> 07:52:29,150

that was like

5799

07:52:34,150 --> 07:52:32,478

fought off

5800

07:52:35,830 --> 07:52:34,160

crew lock pressure has come up to match

5801
07:52:37,670 --> 07:52:35,840
that of the international space station

5802
07:52:40,150 --> 07:52:37,680
a little more than 14 pounds per square

5803
07:52:41,030 --> 07:52:40,160
inch mega mcarthur working to open the

5804
07:52:43,990 --> 07:52:41,040
hatch

5805
07:52:45,910 --> 07:52:44,000
while kimbrough and pesquet uh

5806
07:52:49,270 --> 07:52:45,920
recall some of the events of their six

5807
07:52:52,468 --> 07:52:49,280
hour and 28 minute spacewalk the hatch

5808
07:52:55,830 --> 07:52:53,830
right in front of me now you can unlock

5809
07:52:57,030 --> 07:52:55,840
it on all the words okay

5810
07:53:02,310 --> 07:52:57,040
where is it

5811
07:53:02,320 --> 07:53:05,750
thank you sir

5812
07:53:26,948 --> 07:53:07,270
uh you're still attached to me though

5813
07:53:31,110 --> 07:53:29,590

confidence in step four and

5814

07:53:33,270 --> 07:53:31,120

call

5815

07:53:34,548 --> 07:53:33,280

okay stand by we'll reconfigure the comm

5816

07:53:39,670 --> 07:53:34,558

let you know when the crews no longer

5817

07:53:43,590 --> 07:53:40,830

copy

5818

07:54:16,468 --> 07:53:43,600

thanks and share to my glove

5819

07:54:23,190 --> 07:54:20,388

jackson astronaut aki hoshide detailing

5820

07:54:26,150 --> 07:54:23,200

some the helmet camera assembly on shane

5821

07:54:27,590 --> 07:54:26,160

kimbrough's spacesuit

5822

07:54:30,708 --> 07:54:27,600

for those that tuned in during the

5823

07:54:32,948 --> 07:54:30,718

duration of the spacewalk the helmet

5824

07:54:35,350 --> 07:54:32,958

camera assembly came loose during the

5825

07:54:38,468 --> 07:54:35,360

spacewalk and with the help of tomorrow

5826
07:54:40,948 --> 07:54:38,478
pesquet was re-secured to shane

5827
07:54:43,030 --> 07:54:40,958
kimbrough's suit using some copper wire

5828
07:54:44,070 --> 07:54:43,040
ties you can sort of see them in this

5829
07:54:46,468 --> 07:54:44,080
frame

5830
07:54:48,868 --> 07:54:46,478
and it allowed shane kimbrough to

5831
07:54:50,310 --> 07:54:48,878
proceed with the remainder of his tasks

5832
07:54:51,510 --> 07:54:50,320
including

5833
07:54:54,708 --> 07:54:51,520
getting the

5834
07:54:57,350 --> 07:54:54,718
solar array it finally installed and

5835
07:55:00,788 --> 07:54:57,360
eventually deployed on the 2b power

5836
07:55:05,190 --> 07:55:03,430
they're now detailing uh the helmet

5837
07:55:07,270 --> 07:55:05,200
camera assembly so

5838
07:55:09,670 --> 07:55:07,280

uh engineers here in mission control

5839

07:55:13,910 --> 07:55:09,680

houston can evaluate uh the helmet

5840

07:55:15,510 --> 07:55:13,920

camera assembly on both of the suits

5841

07:55:16,708 --> 07:55:15,520

we gotta go ahead and do some de-config

5842

07:55:39,190 --> 07:55:16,718

of your helmet right now you can't see

5843

07:55:43,350 --> 07:55:41,110

while the crew inside the international

5844

07:55:45,510 --> 07:55:43,360

space station details the helmet camera

5845

07:55:48,070 --> 07:55:45,520

assembly with some photographs

5846

07:55:50,070 --> 07:55:48,080

we did get confirmation that the mics on

5847

07:55:52,230 --> 07:55:50,080

the spacesuits themselves have been

5848

07:55:55,590 --> 07:55:52,240

turned off so we won't be hearing shane

5849

07:55:59,910 --> 07:55:55,600

kimbrough's voice ortoma pesquez voice

5850

07:56:02,868 --> 07:55:59,920

for the remainder of our coverage today

5851
07:56:05,510 --> 07:56:02,878
as the three uso astronauts continue to

5852
07:57:22,310 --> 07:56:05,520
take photos for evaluation again here on

5853
07:57:26,548 --> 07:57:24,388
flanking aki hoshide that you see at the

5854
07:57:28,628 --> 07:57:26,558
center of your screen to the left

5855
07:57:31,030 --> 07:57:28,638
nasa astronaut mark vande high and to

5856
07:57:32,868 --> 07:57:31,040
the right nasa astronaut megan mcarthur

5857
07:57:34,230 --> 07:57:32,878
the first step

5858
07:57:36,788 --> 07:57:34,240
for

5859
07:57:38,948 --> 07:57:36,798
the getting our two space walking crew

5860
07:57:41,670 --> 07:57:38,958
members back from the crew lock into the

5861
07:57:43,350 --> 07:57:41,680
equipment log is to remove a piece of

5862
07:57:46,150 --> 07:57:43,360
equipment called the safer it's the

5863
07:57:49,030 --> 07:57:46,160

simplified aid for eva rescue

5864

07:57:51,670 --> 07:57:49,040

essentially a jet pack that can be used

5865

07:57:53,430 --> 07:57:51,680

if the station astronauts were to become

5866

07:57:55,350 --> 07:57:53,440

untethered during the spacewalk at any

5867

07:57:57,350 --> 07:57:55,360

point but of course we heard throughout

5868

07:57:58,708 --> 07:57:57,360

the duration of today's spacewalk

5869

07:58:00,070 --> 07:57:58,718

constant checks on the tether

5870

07:58:02,388 --> 07:58:00,080

configuration make sure they were

5871

07:58:04,868 --> 07:58:02,398

constantly attached to the outside of

5872

07:58:06,708 --> 07:58:04,878

the station at all times

5873

07:58:08,548 --> 07:58:06,718

another handover in some of our video

5874

07:58:11,510 --> 07:58:08,558

coming down from the space station as we

5875

07:58:13,190 --> 07:58:11,520

hand over our tracking and data relay

5876
07:58:15,350 --> 07:58:13,200
satellites geosynchronous satellites

5877
07:58:17,110 --> 07:58:15,360
that are providing those video feeds

5878
07:58:19,190 --> 07:58:17,120
live from the international space

5879
07:58:21,030 --> 07:58:19,200
station

5880
07:58:24,708 --> 07:58:21,040
meanwhile the orbit two teams still

5881
07:58:27,110 --> 07:58:24,718
monitoring uh the uh

5882
07:58:30,788 --> 07:58:27,120
procedures to get our two space walking

5883
07:58:36,708 --> 07:58:33,110
they were in the suits for the duration

5884
07:58:37,670 --> 07:58:36,718
of the six hour and 28 minute space walk

5885
07:58:39,670 --> 07:58:37,680
today

5886
07:58:42,548 --> 07:58:39,680
in addition to some other time for

5887
07:58:46,150 --> 07:58:42,558
pre-breathing exercises where they were

5888
07:58:49,430 --> 07:58:46,160

breathing 100 oxygen to allow them to

5889

07:58:53,750 --> 07:58:49,440

get the suits down in pressure to less

5890

07:58:58,310 --> 07:58:55,910

you see kimbrough there on the right

5891

07:59:00,708 --> 07:58:58,320

nasa astronaut shane kimbrough

5892

07:59:03,510 --> 07:59:00,718

they'll get him uh configured out of the

5893

07:59:05,350 --> 07:59:03,520

suit by removing his helmet and gloves

5894

07:59:06,788 --> 07:59:05,360

in the meantime what you just saw for

5895

07:59:08,708 --> 07:59:06,798

shane kimbrough

5896

07:59:10,868 --> 07:59:08,718

they'll repeat those steps for

5897

07:59:13,110 --> 07:59:10,878

issa astronaut tomoposque in the back

5898

07:59:15,350 --> 07:59:13,120

there pulling him out and doing the same

5899

07:59:16,468 --> 07:59:15,360

photographic survey of the helmet camera

5900

07:59:18,708 --> 07:59:16,478

assembly

5901
07:59:20,708 --> 07:59:18,718
before removing that safer unit

5902
07:59:23,430 --> 07:59:20,718
simplified 84 eva rescue and then

5903
07:59:26,070 --> 07:59:23,440
putting him on the right side opposite

5904
08:00:29,190 --> 07:59:26,080
of shane kimbrough inside the equipment

5905
08:00:32,628 --> 08:00:31,590
some congratulations inside the airlock

5906
08:00:34,708 --> 08:00:32,638
from

5907
08:00:37,910 --> 08:00:34,718
japan aerospace exploration agency

5908
08:00:40,150 --> 08:00:37,920
astronaut uh aki hoshide over to nasa

5909
08:00:41,270 --> 08:00:40,160
astronaut shane kimbrough on the left he

5910
08:00:43,350 --> 08:00:41,280
again

5911
08:00:44,788 --> 08:00:43,360
completed a successful space walk today

5912
08:00:46,150 --> 08:00:44,798
with thomas

5913
08:00:48,070 --> 08:00:46,160

who again is going through that

5914

08:00:49,750 --> 08:00:48,080

photographic survey they're taking the

5915

08:00:52,388 --> 08:00:49,760

same photos of the helmet camera

5916

08:00:55,110 --> 08:00:52,398

assembly for analysis on the ground kim

5917

08:00:58,070 --> 08:00:55,120

bro and pasquet today completed a six

5918

08:01:01,350 --> 08:00:58,080

hour and 28 minute spacewalk to install

5919

08:01:03,750 --> 08:01:01,360

a brand new solar array on the 2b power

5920

08:01:07,030 --> 08:01:03,760

channel that is the first of the planned

5921

08:01:09,110 --> 08:01:07,040

six spa uh solar arrays that are planned

5922

08:01:11,750 --> 08:01:09,120

for augmenting the station's power

5923

08:01:15,670 --> 08:01:11,760

supply

5924

08:01:19,030 --> 08:01:15,680

each of the iroses produce 20 kilowatts

5925

08:01:22,070 --> 08:01:19,040

of uh will produce about 20 kilowatts of

5926
08:01:24,388 --> 08:01:22,080
energy being pulled into each respective

5927
08:01:27,510 --> 08:01:24,398
uh power channel and being augmented

5928
08:01:30,388 --> 08:01:27,520
still with the legacy solar arrays uh

5929
08:01:33,030 --> 08:01:30,398
continuing to draw power

5930
08:01:36,310 --> 08:01:33,040
in total once all six uh

5931
08:01:38,230 --> 08:01:36,320
uh irosas are installed on different

5932
08:01:40,388 --> 08:01:38,240
power channels of the international

5933
08:01:43,350 --> 08:01:40,398
space station they will provide a total

5934
08:01:45,590 --> 08:01:43,360
of about 120 kilowatts of energy

5935
08:01:47,350 --> 08:01:45,600
supplemented with the continuous draw of

5936
08:01:48,468 --> 08:01:47,360
power from the legacy

5937
08:01:50,548 --> 08:01:48,478
arrays

5938
08:01:52,948 --> 08:01:50,558

in total the international space station

5939

08:01:54,310 --> 08:01:52,958

solar arrays in a new augmented

5940

08:01:55,948 --> 08:01:54,320

configuration

5941

08:02:01,670 --> 08:01:55,958

will be able to generate

5942

08:02:08,070 --> 08:02:05,510

this is needed for continuing research

5943

08:02:10,468 --> 08:02:08,080

and scientific experiments technology

5944

08:02:12,708 --> 08:02:10,478

development and of course continuing our

5945

08:02:15,430 --> 08:02:12,718

efforts to build a low earth orbit

5946

08:02:17,190 --> 08:02:15,440

economy with some future modules

5947

08:02:24,868 --> 08:02:17,200

including commercial modules headed to

5948

08:02:29,430 --> 08:02:26,788

the work today kicks off that

5949

08:02:32,230 --> 08:02:29,440

augmentation plan with the successful

5950

08:02:34,388 --> 08:02:32,240

deployment of the first solar array on

5951
08:02:37,110 --> 08:02:34,398
the 2b power channel

5952
08:02:39,270 --> 08:02:37,120
kimbrough and pesquet performed a number

5953
08:02:42,468 --> 08:02:39,280
of tasks to get

5954
08:02:45,030 --> 08:02:42,478
to get ahead on some of the procedures

5955
08:02:46,948 --> 08:02:45,040
necessary for installing another solar

5956
08:02:48,788 --> 08:02:46,958
array which is also on the outside of

5957
08:02:51,590 --> 08:02:48,798
the international space station

5958
08:02:54,150 --> 08:02:51,600
currently located on some flight support

5959
08:02:56,230 --> 08:02:54,160
equipment on the station's trust they

5960
08:02:57,750 --> 08:02:56,240
remove some beams to get it ready for

5961
08:02:58,788 --> 08:02:57,760
removal from that flight support

5962
08:03:00,150 --> 08:02:58,798
equipment

5963
08:03:02,708 --> 08:03:00,160

but ultimately

5964

08:03:05,030 --> 08:03:02,718

they're going to move it and install it

5965

08:03:07,510 --> 08:03:05,040

onto another power channel the 4b power

5966

08:03:09,990 --> 08:03:07,520

channel that will be conducted on a

5967

08:03:12,468 --> 08:03:10,000

future spacewalk right now tentatively

5968

08:09:01,510 --> 08:03:12,478

scheduled for june 25th this upcoming

5969

08:09:06,310 --> 08:09:03,830

and one of those periodic views losing

5970

08:09:08,468 --> 08:09:06,320

views from the international space

5971

08:09:10,150 --> 08:09:08,478

station should be regaining them shortly

5972

08:09:13,030 --> 08:09:10,160

but in the meantime we did have a

5973

08:09:15,910 --> 08:09:13,040

successful six hour and twenty eight

5974

08:09:18,708 --> 08:09:15,920

minute spacewalk started at 6 42 a.m

5975

08:09:21,430 --> 08:09:18,718

central time concluding at 1 10 pm

5976

08:09:24,230 --> 08:09:21,440

central time again the two astronauts

5977

08:09:26,388 --> 08:09:24,240

successfully installed and deployed

5978

08:09:28,788 --> 08:09:26,398

a new solar array on the 2b power

5979

08:09:30,628 --> 08:09:28,798

channel to augment the power being drawn

5980

08:09:33,430 --> 08:09:30,638

into that channel and they started some

5981

08:09:35,670 --> 08:09:33,440

of the prep work for continuing the

5982

08:09:37,830 --> 08:09:35,680

upgrades of that are planned for

5983

08:09:40,070 --> 08:09:37,840

augmenting the power system as a whole

5984

08:09:41,110 --> 08:09:40,080

for the international space station that

5985

08:09:43,190 --> 08:09:41,120

second

5986

08:09:45,670 --> 08:09:43,200

solar array is on the international

5987

08:09:47,670 --> 08:09:45,680

space station now and will be moved over

5988

08:09:49,750 --> 08:09:47,680

from the flight support equipment which

5989

08:09:51,830 --> 08:09:49,760

is currently on the truss over to its

5990

08:09:53,830 --> 08:09:51,840

new home on the 4b channel where it will

5991

08:09:56,310 --> 08:09:53,840

be installed and deployed currently

5992

08:09:58,548 --> 08:09:56,320

planned for a spacewalk coming up this

5993

08:10:01,110 --> 08:09:58,558

friday june 25th

5994

08:10:03,750 --> 08:10:01,120

uh right now the plan is for tomoposque

5995

08:10:04,868 --> 08:10:03,760

and shane kimbrough to perform the and

5996

08:10:05,990 --> 08:10:04,878

complete

5997

08:10:08,628 --> 08:10:06,000

that set

5998

08:10:10,788 --> 08:10:08,638

of the spacewalk uh the teams here in

5999

08:10:12,708 --> 08:10:10,798

mission control and

6000

08:10:15,270 --> 08:10:12,718

the nasa johnson space center in houston

6001

08:10:17,990 --> 08:10:15,280

will evaluate uh the forward plan given

6002

08:10:19,990 --> 08:10:18,000

today's events uh and uh we'll make an

6003

08:10:22,788 --> 08:10:20,000

announcement please follow us on

6004

08:10:25,110 --> 08:10:22,798

nasa.gov to find out the latest uh on

6005

08:10:27,430 --> 08:10:25,120

that particular spacewalk

6006

08:10:29,510 --> 08:10:27,440

with the new solar array deployed and

6007

08:10:52,530 --> 08:10:29,520

this spacewalk complete that'll do it