



1
00:00:15,010 --> 00:00:05,410
foreign

2
00:00:15,020 --> 00:00:25,130
[Music]

3
00:00:28,310 --> 00:00:26,929
good morning and welcome to the

4
00:00:30,170 --> 00:00:28,320
International Space Station flight

5
00:00:32,569 --> 00:00:30,180
control room here at Johnson Space

6
00:00:34,430 --> 00:00:32,579
Center in Houston Texas I'm Leah

7
00:00:38,030 --> 00:00:34,440
Cheshire and we are live today to bring

8
00:00:39,889 --> 00:00:38,040
you coverage of us Eva 86. the

9
00:00:41,569 --> 00:00:39,899
spacewalkers are about 30 minutes ahead

10
00:00:43,610 --> 00:00:41,579
of schedule today they have completed

11
00:00:46,190 --> 00:00:43,620
the pre-breathe portion and are already

12
00:00:55,850 --> 00:00:46,200
suited up in the equipment log portion

13
00:01:00,529 --> 00:00:58,850

today is the 261st spacewalk in the

14

00:01:02,150 --> 00:01:00,539

history of station assembly and

15

00:01:04,549 --> 00:01:02,160

maintenance and it's scheduled to last

16

00:01:06,590 --> 00:01:04,559

approximately six and a half hours once

17

00:01:10,789 --> 00:01:06,600

this way once the spacewalkers switch

18

00:01:16,130 --> 00:01:13,010

today's space Walkers are NASA astronaut

19

00:01:18,770 --> 00:01:16,140

Steve Bowen and UAE astronaut Sultan

20

00:01:21,109 --> 00:01:18,780

al-niadi it's Bowen's eighth spacewalk

21

00:01:23,450 --> 00:01:21,119

and he'll be ev1 wearing red stripes

22

00:01:25,850 --> 00:01:23,460

around the legs on his spacesuit

23

00:01:27,590 --> 00:01:25,860

it's also the first ever spacewalk for

24

00:01:30,469 --> 00:01:27,600

an astronaut from the United Arab

25

00:01:32,749 --> 00:01:30,479

Emirates Sultan al-niadi will be ev2 and

26

00:01:35,270 --> 00:01:32,759

he will wear an unmarked suit

27

00:01:37,130 --> 00:01:35,280

Woody hoberg is the suit IV meaning he's

28

00:01:39,170 --> 00:01:37,140

the lead on station for getting the crew

29

00:01:43,490 --> 00:01:39,180

properly suited and ready to head out

30

00:01:48,289 --> 00:01:45,410

today Bowen and al-nayadi will address

31

00:01:50,149 --> 00:01:48,299

two primary tasks the duo will exit the

32

00:01:52,190 --> 00:01:50,159

station's Quest airlock to prepare for

33

00:01:53,929 --> 00:01:52,200

future installation of upgraded solar

34

00:01:55,850 --> 00:01:53,939

arrays on the starboard side of the

35

00:01:57,590 --> 00:01:55,860

station's trust this summer which

36

00:01:59,510 --> 00:01:57,600

includes routing cables and covering

37

00:02:02,210 --> 00:01:59,520

modification kits with mli or

38

00:02:04,130 --> 00:02:02,220

multi-layer insulation the astronauts

39

00:02:05,929 --> 00:02:04,140
will then receive retrieve s-band

40

00:02:07,490 --> 00:02:05,939
antenna equipment and bring it inside

41

00:02:08,870 --> 00:02:07,500
the space station before it is

42

00:02:12,470 --> 00:02:08,880
eventually returned to Earth for

43

00:02:17,449 --> 00:02:14,750
the crew on station consists of three

44

00:02:20,150 --> 00:02:17,459
NASA astronauts one UAE astronaut and

45

00:02:22,369 --> 00:02:20,160
three risk Cosmos cosmonauts Steve Bowen

46

00:02:26,270 --> 00:02:22,379
Woody hoberg and Frank Rubio of NASA

47

00:02:28,610 --> 00:02:26,280
Sultan al-niadi of UAE Andre fedev and

48

00:02:31,369 --> 00:02:28,620
Dimitri batelen and Sergey prokopia

49

00:02:32,690 --> 00:02:31,379
overs Cosmos make up the seven crew

50

00:02:35,030 --> 00:02:32,700
members currently on board the

51
00:02:36,770 --> 00:02:35,040
International Space Station today the

52
00:02:38,390 --> 00:02:36,780
astronauts inside the station are still

53
00:02:40,790 --> 00:02:38,400
supporting the spacewalk and will have a

54
00:02:47,270 --> 00:02:40,800
live video feed of the two astronauts

55
00:02:52,369 --> 00:02:49,250
the International Space Station is

56
00:02:54,410 --> 00:02:52,379
currently flying 262 statute miles over

57
00:02:56,630 --> 00:02:54,420
the North Pacific Ocean

58
00:03:00,110 --> 00:02:56,640
it's in an orbital nighttime traveling

59
00:03:06,130 --> 00:03:00,120
17 500 miles per hour or five miles per

60
00:03:06,140 --> 00:03:11,930
36 seconds on that clock

61
00:03:11,940 --> 00:03:27,110
use 10 copies

62
00:03:30,589 --> 00:03:28,729
again we're live in Mission Control

63
00:03:33,290 --> 00:03:30,599

Houston at Johnson Space Center in

64

00:03:35,149 --> 00:03:33,300

Houston Texas where the orbit 2 team is

65

00:03:37,070 --> 00:03:35,159

now taking over from the orbit one team

66

00:03:39,229 --> 00:03:37,080

who has been walking the crew through

67

00:03:40,850 --> 00:03:39,239

their suit up and their pre-breathing as

68

00:03:43,070 --> 00:03:40,860

well as other spacewalk preparations

69

00:03:44,869 --> 00:03:43,080

this morning

70

00:03:46,369 --> 00:03:44,879

flight director today will be Scott

71

00:03:47,630 --> 00:03:46,379

Stover he's leading all the flight

72

00:03:50,210 --> 00:03:47,640

controllers on the ground through

73

00:03:54,649 --> 00:03:50,220

today's spacewalk he is joined by Capcom

74

00:03:57,890 --> 00:03:56,509

Costas on hand to speak with the station

75

00:04:00,710 --> 00:03:57,900

astronauts and he'll hand over

76
00:04:02,869 --> 00:04:00,720
Communications to ground IV and McLean

77
00:04:05,149 --> 00:04:02,879
once the quest hatch is closed and

78
00:04:07,070 --> 00:04:05,159
depressurization is underway

79
00:04:08,930 --> 00:04:07,080
maverittus will also serve as today's

80
00:04:11,210 --> 00:04:08,940
Capcom for the other astronauts aboard

81
00:04:13,309 --> 00:04:11,220
the space station

82
00:04:15,170 --> 00:04:13,319
as previously mentioned NASA astronaut

83
00:04:17,090 --> 00:04:15,180
and McLean will be talking directly to

84
00:04:19,069 --> 00:04:17,100
the two spacewalkers as they move

85
00:04:20,930 --> 00:04:19,079
throughout their tasks today giving them

86
00:04:24,950 --> 00:04:20,940
step-by-step instruction coming from

87
00:04:29,150 --> 00:04:27,050
and the lead spacewalk officer today is

88
00:04:30,830 --> 00:04:29,160

Sandy Fletcher she oversees the team

89

00:04:32,629 --> 00:04:30,840

monitoring the suit information and

90

00:04:34,430 --> 00:04:32,639

walking through procedures as well as

91

00:05:27,610 --> 00:04:34,440

feeding information to Mission Control

92

00:05:32,210 --> 00:05:30,529

right now the crew members are in the

93

00:05:33,710 --> 00:05:32,220

equipment lock portion of the quest

94

00:05:36,189 --> 00:05:33,720

airlock this is where they have been

95

00:05:38,510 --> 00:05:36,199

this morning as they donned their suits

96

00:05:40,189 --> 00:05:38,520

continued their pre-breathing exercises

97

00:05:43,670 --> 00:05:40,199

and they will eventually attach the

98

00:05:46,790 --> 00:05:43,680

safer or the certif uh the aid for Eva

99

00:05:48,469 --> 00:05:46,800

rescue in the equipment lock eventually

100

00:05:50,689 --> 00:05:48,479

they'll move to the crew lock which is

101
00:05:52,610 --> 00:05:50,699
behind Woody hoberg at this time that's

102
00:05:53,689 --> 00:05:52,620
the outermost part of the quest airlock

103
00:05:55,610 --> 00:05:53,699
where they will conduct final

104
00:05:57,050 --> 00:05:55,620
Communications and suit system checks

105
00:05:58,610 --> 00:05:57,060
with the ground they will eventually

106
00:06:00,590 --> 00:05:58,620
change their suits to internal battery

107
00:06:07,730 --> 00:06:00,600
power which starts our timer for today's

108
00:06:11,749 --> 00:06:10,010
up until now the spacewalkers were

109
00:06:14,689 --> 00:06:11,759
conducting the in-suit light exercise

110
00:06:16,370 --> 00:06:14,699
protocol also known as aisle this helps

111
00:06:18,230 --> 00:06:16,380
acclimate their bodies to lower pressure

112
00:06:20,390 --> 00:06:18,240
inside the suit and helps astronauts

113
00:07:33,370 --> 00:06:20,400

avoid what we call the bends by purging

114

00:07:37,550 --> 00:07:35,689

and again another look at our space

115

00:07:39,589 --> 00:07:37,560

Walkers today Steve Bowen will be

116

00:07:42,650 --> 00:07:39,599

conducting his eighth spacewalk he'll be

117

00:07:44,990 --> 00:07:42,660

ev1 wearing red stripes so far he's

118

00:07:47,390 --> 00:07:45,000

conducted seven spacewalks totaling 47

119

00:07:49,249 --> 00:07:47,400

hours and 18 minutes a little bit of

120

00:07:51,170 --> 00:07:49,259

added excitement today as Sultan

121

00:07:57,350 --> 00:07:51,180

alnayadi will be making the first ever

122

00:08:01,850 --> 00:08:00,170

overall it's the 261st spacewalk in

123

00:08:03,950 --> 00:08:01,860

support of station assembly maintenance

124

00:08:06,770 --> 00:08:03,960

and upgrades and our fourth for this

125

00:08:10,189 --> 00:08:09,230

we have two more space walks coming up

126
00:08:13,790 --> 00:08:10,199
soon

127
00:08:27,650 --> 00:08:13,800
Russian spacewalk 65 and 66 coming up in

128
00:08:32,029 --> 00:08:29,749
again this look inside Mission Control

129
00:08:33,649 --> 00:08:32,039
Houston as we are in a satellite

130
00:08:35,930 --> 00:08:33,659
Handover with the International Space

131
00:08:38,510 --> 00:08:35,940
Station teams here are also conducting

132
00:08:40,550 --> 00:08:38,520
their Handover as orbit 1 hands over to

133
00:08:51,410 --> 00:08:40,560
orbit 2 this morning preparing them for

134
00:08:56,449 --> 00:08:54,470
and this view inside the airlock as

135
00:08:59,030 --> 00:08:56,459
Woody hoberg on the bottom left of the

136
00:09:01,310 --> 00:08:59,040
screen and Frank Rubio up at the top of

137
00:09:04,310 --> 00:09:01,320
the screen prepared to attach the safer

138
00:09:06,590 --> 00:09:04,320

the simplified aid for Eva rescue to

139

00:09:09,410 --> 00:09:06,600

NASA astronauts Steve Bowen again this

140

00:09:11,150 --> 00:09:09,420

is sort of like a jet pack that is worn

141

00:09:13,490 --> 00:09:11,160

as a backpack

142

00:09:15,350 --> 00:09:13,500

the astronauts used two tethers at all

143

00:09:17,150 --> 00:09:15,360

times so they do not become detached

144

00:09:19,430 --> 00:09:17,160

from the International Space Station but

145

00:09:22,009 --> 00:09:19,440

this is another backup option for them

146

00:10:37,910 --> 00:09:22,019

in case they were to drift from the

147

00:10:42,290 --> 00:10:40,610

as our astronauts continue to prepare

148

00:10:44,930 --> 00:10:42,300

for today's spacewalk a little bit of

149

00:10:47,630 --> 00:10:44,940

information about the suits and the

150

00:10:50,090 --> 00:10:47,640

pre-breathe process so far at nominal

151

00:10:52,310 --> 00:10:50,100

pressure the suit is about 4.3 PSI or

152

00:10:53,990 --> 00:10:52,320

pounds per square inch of pressure and

153

00:10:55,550 --> 00:10:54,000

to put that into context the the

154

00:10:58,370 --> 00:10:55,560

atmospheric pressure we're used to on

155

00:11:00,230 --> 00:10:58,380

Earth is about 14.7 PSI which is

156

00:11:02,449 --> 00:11:00,240

approximately the same as the inside of

157

00:11:04,550 --> 00:11:02,459

the space station with a mixed oxygen

158

00:11:06,829 --> 00:11:04,560

and nitrogen environment similar to what

159

00:11:09,110 --> 00:11:06,839

we have here on Earth

160

00:11:11,269 --> 00:11:09,120

the 4.3 pounds per square inch of

161

00:11:13,310 --> 00:11:11,279

pressure in the spacesuit is similar to

162

00:11:15,410 --> 00:11:13,320

what you'd experience at about 30 000

163

00:11:17,269 --> 00:11:15,420

feet elevation and that low pressure

164

00:11:19,430 --> 00:11:17,279

helps the spacesuit feel a little more

165

00:11:21,410 --> 00:11:19,440

flexible which we really need because

166

00:11:23,090 --> 00:11:21,420

the gloves can be kind of rigid

167

00:11:25,250 --> 00:11:23,100

especially during a six and a half hour

168

00:11:31,190 --> 00:11:25,260

spacewalk so it helps the astronauts

169

00:11:36,490 --> 00:11:32,930

we discussed the pre-breathe process

170

00:11:40,250 --> 00:11:36,500

earlier that includes about 55-0 minutes

171

00:11:41,750 --> 00:11:40,260

of about of Cycles where we spend four

172

00:11:43,850 --> 00:11:41,760

minutes exercising and one minute

173

00:11:45,590 --> 00:11:43,860

resting that exercise looks pretty

174

00:11:47,269 --> 00:11:45,600

simple it looks like moving your arms

175

00:11:48,769 --> 00:11:47,279

and legs just a little bit but this

176

00:11:50,470 --> 00:11:48,779

helps Purge nitrogen from their

177

00:11:58,430 --> 00:11:50,480

bloodstream to help maintain a 100

178

00:12:03,230 --> 00:12:00,829

pre-breathing consists of two phases in

179

00:12:04,850 --> 00:12:03,240

the first the crew breathes 100 oxygen

180

00:12:07,130 --> 00:12:04,860

through a mask to begin purging that

181

00:12:09,170 --> 00:12:07,140

nitrogen and in the second the crew gets

182

00:12:11,990 --> 00:12:09,180

into their spacesuits and conducts aisle

183

00:12:13,670 --> 00:12:12,000

the in suit light exercise again moving

184

00:12:15,110 --> 00:12:13,680

their arms and legs raising their

185

00:13:26,509 --> 00:12:15,120

metabolic rate and helps speed up

186

00:13:32,030 --> 00:13:29,030

closest to the camera right now and

187

00:13:35,329 --> 00:13:32,040

unsuited is NASA astronaut Frank Rubio

188

00:13:36,590 --> 00:13:35,339

he will spend 371 days on the

189

00:13:38,690 --> 00:13:36,600

International Space Station before

190

00:13:40,730 --> 00:13:38,700

returning home this year setting a new

191

00:16:03,350 --> 00:13:40,740

space flight record for any U.S

192

00:16:03,360 --> 00:16:21,670

immediate

193

00:16:26,750 --> 00:16:24,530

as NASA astronaut Frank Rubio puts the

194

00:16:28,670 --> 00:16:26,760

finishing it touches on attaching the

195

00:16:32,870 --> 00:16:28,680

safer to

196

00:16:35,449 --> 00:16:32,880

NASA Steve Bowen our ev1 Woody hoberg is

197

00:17:48,409 --> 00:16:35,459

going to begin working on sultan

198

00:17:51,529 --> 00:17:50,029

teams of Mission Control Houston

199

00:17:53,690 --> 00:17:51,539

continue preparing the space station

200

00:17:56,330 --> 00:17:53,700

itself for today's

201
00:17:57,950 --> 00:17:56,340
spacewalk that includes inhibiting some

202
00:17:59,450 --> 00:17:57,960
of the thrusters on the outside of the

203
00:18:01,970 --> 00:17:59,460
International Space Station so there

204
00:18:03,950 --> 00:18:01,980
isn't any interference

205
00:18:05,810 --> 00:18:03,960
additionally it can include closing some

206
00:18:07,789 --> 00:18:05,820
of the shutters over the windows

207
00:18:10,070 --> 00:18:07,799
and eventually the crew members may be

208
00:18:12,409 --> 00:18:10,080
asked to not exercise at certain parts

209
00:18:15,230 --> 00:18:12,419
during today's spacewalk specifically

210
00:18:19,430 --> 00:18:15,240
that no exercise request comes whenever

211
00:18:22,310 --> 00:18:19,440
the ssrms or the Canon arm 2 as it is

212
00:18:24,230 --> 00:18:22,320
more commonly known is in use this just

213
00:18:26,150 --> 00:18:24,240

helps ensure there are no additional

214

00:18:27,950 --> 00:18:26,160

loads being imparted on the Canon arm

215

00:18:33,909 --> 00:18:27,960

too especially when we're moving a crew

216

00:18:38,210 --> 00:18:36,289

NASA's Woody hoberg will be driving the

217

00:18:40,370 --> 00:18:38,220

Canada arm 2 today from inside the

218

00:18:42,190 --> 00:18:40,380

International Space Station after he has

219

00:18:44,870 --> 00:18:42,200

helped get the crew members out the door

220

00:18:47,750 --> 00:18:44,880

as you can see they've moved NASA Steve

221

00:20:57,830 --> 00:18:47,760

Bowen into the crew lock portion of the

222

00:20:57,840 --> 00:21:22,390

thank you

223

00:21:27,710 --> 00:21:25,549

and as Sultan al-nayadi begins

224

00:21:29,570 --> 00:21:27,720

preparation for his first ever spacewalk

225

00:21:31,909 --> 00:21:29,580

in the first spacewalk for any UAE

226

00:21:33,590 --> 00:21:31,919

astronaut joining us in Mission Control

227

00:21:37,310 --> 00:21:33,600

Houston today watching from the viewing

228

00:21:39,529 --> 00:21:37,320

room is haza almansuri he was the first

229

00:21:41,450 --> 00:21:39,539

United Arab Emirates astronaut to visit

230

00:22:39,789 --> 00:21:41,460

the International Space Station so a

231

00:22:45,529 --> 00:22:43,490

as Woody hoberg our suit IV and Frank

232

00:22:49,370 --> 00:22:45,539

Rubio work to attach the safer

233

00:22:54,950 --> 00:22:49,380

simplified aid for Eva rescue to huzzah

234

00:22:58,490 --> 00:22:56,450

we're getting closer to the start of

235

00:23:01,430 --> 00:22:58,500

today's space walk again you can see

236

00:23:04,370 --> 00:23:01,440

that there are no stripes on the

237

00:23:06,529 --> 00:23:04,380

spacesuit that Sultan is wearing this is

238

00:23:09,830 --> 00:23:06,539

an ev2 suit you'll be able to

239

00:23:11,810 --> 00:23:09,840

differentiate between him and

240

00:23:16,510 --> 00:23:11,820

Steve Bowen once they're outside the

241

00:23:21,350 --> 00:23:19,010

where there are no stripes on this suit

242

00:23:22,490 --> 00:23:21,360

and there's a red stripe on Steve Bowen

243

00:23:25,549 --> 00:23:22,500

suit

244

00:23:28,970 --> 00:23:25,559

later in the day Bowen will use will be

245

00:23:30,890 --> 00:23:28,980

on the ssrms the Canon rm2

246

00:23:33,289 --> 00:23:30,900

looks like Frank Rubio will be our Prime

247

00:26:01,870 --> 00:23:33,299

operator for the Canon arm 2 backed up

248

00:26:08,930 --> 00:26:05,750

as Rubio and hoberg continue working to

249

00:26:10,970 --> 00:26:08,940

attach the safer to Sultan al-niadi's

250

00:26:13,310 --> 00:26:10,980

spacesuit they are in the equipment lock

251

00:26:15,169 --> 00:26:13,320

portion of the quest airlock

252

00:26:17,630 --> 00:26:15,179

you can't see him but Steve Bowen is

253

00:26:20,649 --> 00:26:17,640

already in the crew lock portion once

254

00:26:26,750 --> 00:26:23,750

attachment of safer is complete hoberg

255

00:26:28,789 --> 00:26:26,760

and Rubio will move alnayadi into the

256

00:26:29,950 --> 00:26:28,799

crew lock portion of the airlock they'll

257

00:26:31,850 --> 00:26:29,960

then close the hatch and begin

258

00:26:34,130 --> 00:26:31,860

depressurization of that airlock

259

00:26:36,110 --> 00:26:34,140

eventually preparing for the external

260

00:27:26,570 --> 00:26:36,120

hatch to be opened in our space Walkers

261

00:27:30,890 --> 00:27:28,549

some fun information about the

262

00:27:33,830 --> 00:27:30,900

spacesuits as we prepare for these crew

263

00:27:36,409 --> 00:27:33,840

members to get out of the hatch this

264

00:27:38,210 --> 00:27:36,419

morning these suits are obviously fitted

265

00:27:40,370 --> 00:27:38,220

on the ground for the crew but they also

266

00:27:42,590 --> 00:27:40,380

refit their suits in space to account

267

00:27:44,210 --> 00:27:42,600

for any spinal elongation or fluid

268

00:27:45,710 --> 00:27:44,220

shifting that has occurred since they

269

00:27:50,289 --> 00:27:45,720

arrived at the International Space

270

00:27:54,890 --> 00:27:53,330

the suit has six layers it provides

271

00:27:56,990 --> 00:27:54,900

atmospheric containment thermal

272

00:27:59,210 --> 00:27:57,000

insulation cooling solar radiation

273

00:28:11,510 --> 00:27:59,220

protection and micrometeoroid or orbital

274

00:28:15,830 --> 00:28:13,669

Engineers on the ground take about 80

275

00:28:17,990 --> 00:28:15,840

measurements to ensure each spacewalker

276

00:28:20,210 --> 00:28:18,000

has the best fitting space suit which

277

00:28:22,549 --> 00:28:20,220

includes about 16 major elements that

278

00:28:24,769 --> 00:28:22,559

compose the suit itself this includes

279

00:28:27,950 --> 00:28:24,779

three different sizes of torsos eight

280

00:28:30,529 --> 00:28:27,960

sizes of elbow joint pieces two sizes of

281

00:28:33,830 --> 00:28:30,539

adjustable waists five sizes of knee

282

00:30:10,389 --> 00:28:33,840

joint pieces and 65 sizes of gloves or

283

00:30:15,950 --> 00:30:13,250

now that the safer is properly attached

284

00:30:17,930 --> 00:30:15,960

to Sultan al-niadi's spacesuit hoberg

285

00:30:19,789 --> 00:30:17,940

and Rubio are working to move him into

286

00:30:25,430 --> 00:30:19,799

the crew lock portion of the quest

287

00:30:29,450 --> 00:30:27,649

once our two spacewalkers are situated

288

00:30:31,549 --> 00:30:29,460

Rubio will exit that portion of the

289

00:30:34,669 --> 00:30:31,559

airlock and rejoin hoberg in the

290

00:32:30,230 --> 00:30:36,529

they'll then close the hatch and begin

291

00:32:34,149 --> 00:32:32,330

because the International Space Station

292

00:32:38,269 --> 00:32:34,159

is just that International

293

00:32:42,169 --> 00:32:38,279

the Time Zone GMT is used so it's a 12

294

00:32:44,149 --> 00:32:42,179

17 p.m on the space station these crew

295

00:32:45,889 --> 00:32:44,159

members are essentially in the middle of

296

00:32:47,450 --> 00:32:45,899

their day

297

00:32:49,789 --> 00:32:47,460

again we're looking for about a six and

298

00:32:51,649 --> 00:32:49,799

a half hour spacewalk

299

00:32:53,090 --> 00:32:51,659

that spacewalk clock will begin when

300

00:33:39,350 --> 00:32:53,100

their suits are turned on to battery

301
00:33:39,360 --> 00:35:45,250
here

302
00:35:45,260 --> 00:35:54,650
thank you

303
00:36:01,150 --> 00:35:57,109
sure all right can you get your flat I'm

304
00:36:06,109 --> 00:36:04,190
a smile from NASA astronaut Woody hoberg

305
00:36:08,089 --> 00:36:06,119
today's suit IV he's been helping the

306
00:36:10,069 --> 00:36:08,099
astronauts get suited up along with

307
00:36:12,650 --> 00:36:10,079
Frank Rubio they're closest to the

308
00:36:17,089 --> 00:36:15,109
they're both in the equipment portion of

309
00:36:19,010 --> 00:36:17,099
the quest airlock

310
00:36:22,550 --> 00:36:19,020
now both crew members are in the crew

311
00:36:24,829 --> 00:36:22,560
lock portion and the next steps will be

312
00:37:33,230 --> 00:36:24,839
to close the hatch between the two and

313
00:37:39,290 --> 00:37:36,530

both Rubio and hoberg looking ready to

314

00:38:59,950 --> 00:37:39,300

go as do the two astronauts in the crew

315

00:38:59,960 --> 00:39:22,190

thank you

316

00:39:22,200 --> 00:39:26,810

76.

317

00:39:32,450 --> 00:39:29,690

good morning Woody and we copy step 76

318

00:39:37,370 --> 00:39:32,460

we will put step 78 and 79 in work on

319

00:39:37,380 --> 00:39:45,230

in Costa sounds great

320

00:39:48,890 --> 00:39:47,030

the voices you hear right now obviously

321

00:39:50,990 --> 00:39:48,900

Woody hoberg using that tablet to step

322

00:39:53,150 --> 00:39:51,000

through the next steps ahead of today's

323

00:39:55,630 --> 00:39:53,160

spacewalk he's speaking on the ground

324

00:39:58,010 --> 00:39:55,640

with Costa madridis who is the Capcom

325

00:39:59,450 --> 00:39:58,020

once the astronauts switched their suits

326

00:40:01,690 --> 00:39:59,460

to battery power and get outside the

327

00:40:04,430 --> 00:40:01,700

hatch they will hand over

328

00:40:06,410 --> 00:40:04,440

Communications to NASA astronaut and

329

00:40:08,690 --> 00:40:06,420

McLean here in the room

330

00:40:10,849 --> 00:40:08,700

she's known as the ground IV and will be

331

00:40:13,210 --> 00:40:10,859

relaying steps to the astronauts from

332

00:40:15,530 --> 00:40:13,220

here in Mission Control Houston

333

00:40:17,690 --> 00:40:15,540

myvertis will remain on Console to work

334

00:40:19,609 --> 00:40:17,700

with the astronauts that are on board

335

00:40:49,280 --> 00:40:19,619

the station but not outside on the

336

00:40:49,290 --> 00:40:52,430

[Applause]

337

00:40:52,440 --> 00:41:00,829

okay

338

00:41:00,839 --> 00:41:05,450

let me see how far back I can get

339

00:41:05,460 --> 00:41:08,770

okay excuse myself

340

00:41:13,130 --> 00:41:10,910

I always thought that is connected to

341

00:41:27,440 --> 00:41:13,140

hearing extender

342

00:41:39,370 --> 00:41:33,910

[Music]

343

00:41:39,380 --> 00:41:46,490

good morning

344

00:42:00,800 --> 00:41:48,310

Costco grab your coffee

345

00:42:00,810 --> 00:42:05,690

[Applause]

346

00:42:05,700 --> 00:42:09,470

thank you

347

00:42:13,990 --> 00:42:12,829

yes I've got my weird feather a close

348

00:42:18,430 --> 00:42:14,000

line along

349

00:42:22,250 --> 00:42:18,440

get my big hook keep close your

350

00:42:23,470 --> 00:42:22,260

screen reel okay close by The Rock lean

351
00:42:27,010 --> 00:42:23,480
real estate

352
00:42:30,310 --> 00:42:27,020
the yellow Hook is

353
00:42:33,530 --> 00:42:30,320
kind of thing in just a minute

354
00:42:36,130 --> 00:42:33,540
check that the depressed pump power is

355
00:42:39,230 --> 00:42:36,140
off of

356
00:42:42,069 --> 00:42:39,240
pump is off

357
00:42:51,050 --> 00:42:42,079
and you press pump enable led

358
00:42:55,849 --> 00:42:53,210
and of course you're hearing some

359
00:42:58,670 --> 00:42:55,859
new voices added to the mix now that it

360
00:43:01,250 --> 00:42:58,680
is of Steve Bowen and Sultan al-niadi

361
00:43:08,990 --> 00:43:01,260
preparing for depress

362
00:43:09,000 --> 00:43:13,730
oh

363
00:43:26,810 --> 00:43:16,210

do that

364

00:43:26,820 --> 00:43:38,349

[Laughter]

365

00:43:47,390 --> 00:43:41,089

ISO valves open and you guys can expect

366

00:43:47,400 --> 00:44:04,150

foreign

367

00:44:04,160 --> 00:44:17,450

[Laughter]

368

00:44:17,460 --> 00:44:25,890

ah

369

00:44:25,900 --> 00:44:57,589

[Music]

370

00:45:02,450 --> 00:45:00,349

we are in a Handover of the tracking

371

00:45:03,530 --> 00:45:02,460

data and relay satellite systems that we

372

00:45:09,410 --> 00:45:03,540

use to communicate with the

373

00:45:12,770 --> 00:45:11,210

teams have given a go for

374

00:45:14,690 --> 00:45:12,780

depressurization of the crew lock

375

00:45:17,450 --> 00:45:14,700

portion of the quest airlock where our

376

00:45:19,970 --> 00:45:17,460

two space Walkers now says Steve Bowen

377

00:45:22,130 --> 00:45:19,980

and Sultana nayadi of the United Arab

378

00:45:25,910 --> 00:45:22,140

Emirates are inside and preparing for

379

00:45:29,109 --> 00:45:27,710

we started with pressure in the airlock

380

00:45:32,930 --> 00:45:29,119

at about

381

00:45:35,329 --> 00:45:32,940

14.7 PSI or pounds per square inch it

382

00:45:44,330 --> 00:45:35,339

continues to drop now at about 11.6

383

00:45:44,340 --> 00:46:02,829

[Laughter]

384

00:46:02,839 --> 00:46:12,050

thank you

385

00:46:12,060 --> 00:46:24,550

[Music]

386

00:46:24,560 --> 00:46:29,120

thank you

387

00:47:01,310 --> 00:46:50,430

[Music]

388

00:47:01,320 --> 00:47:14,690

[Laughter]

389

00:47:14,700 --> 00:47:21,970

thank you

390

00:47:26,390 --> 00:47:24,230

depressurization of the crew lock

391

00:47:28,970 --> 00:47:26,400

portion of the quest airlock continues

392

00:47:30,950 --> 00:47:28,980

now looking at about 9.6 pounds per

393

00:47:34,790 --> 00:47:30,960

square inch of pressure

394

00:47:40,069 --> 00:47:37,130

they'll have a built-in hold shortly

395

00:47:41,390 --> 00:47:40,079

where they wait to check out and make

396

00:47:43,309 --> 00:47:41,400

sure that the readings are accurate

397

00:47:45,230 --> 00:47:43,319

coming from inside the quest airlock and

398

00:47:48,109 --> 00:47:45,240

that temperature fluctuation isn't

399

00:48:02,210 --> 00:47:48,119

causing the pressure to pressure

400

00:48:02,220 --> 00:48:23,780

oh

401
00:48:23,790 --> 00:48:42,770
[Laughter]

402
00:48:42,780 --> 00:49:00,790
foreign

403
00:49:11,460 --> 00:49:04,190
continues to drop as planned now at 8.25

404
00:49:11,470 --> 00:49:25,210
[Laughter]

405
00:49:25,220 --> 00:49:56,110
thank you

406
00:50:37,310 --> 00:50:03,349
[Laughter]

407
00:50:37,320 --> 00:50:58,849
[Music]

408
00:50:58,859 --> 00:51:08,790
all right

409
00:51:08,800 --> 00:51:23,089
[Music]

410
00:51:23,099 --> 00:51:42,849
hi

411
00:51:49,190 --> 00:51:46,549
now under 6.5 pounds per square inch of

412
00:51:52,069 --> 00:51:49,200
pressure in the crew lock portion of the

413
00:51:53,990 --> 00:51:52,079

quest airlock

414

00:51:55,970 --> 00:51:54,000

that depressurization continuing to be

415

00:51:59,329 --> 00:51:55,980

monitored by NASA astronaut Woody hoberg

416

00:52:01,069 --> 00:51:59,339

the ground IV in the picture now

417

00:52:27,230 --> 00:52:01,079

as well as team members here in Mission

418

00:52:27,240 --> 00:53:35,210

foreign

419

00:53:35,220 --> 00:53:59,450

R1

420

00:54:05,690 --> 00:54:02,809

okay so time on my mark you'll be taking

421

00:54:07,010 --> 00:54:05,700

the depressed pump man ISO valve to

422

00:54:31,309 --> 00:54:07,020

close

423

00:54:49,609 --> 00:54:33,950

Mark if you press conference about

424

00:54:53,870 --> 00:54:52,130

okay next up we are going to perform a

425

00:54:56,030 --> 00:54:53,880

leak check you'll use your display

426

00:54:58,910 --> 00:54:56,040

switch to scroll until leak chat

427

00:55:00,410 --> 00:54:58,920

question mark is displayed hold yes two

428

00:55:02,630 --> 00:55:00,420

seconds and follow displayed

429

00:55:06,790 --> 00:55:02,640

instructions

430

00:55:12,230 --> 00:55:09,950

as expected pressure inside the airlock

431

00:55:26,410 --> 00:55:12,240

now paused at 5 PSI while the crew

432

00:55:31,849 --> 00:55:28,430

depressurization will resume shortly

433

00:55:34,190 --> 00:55:31,859

once these leak checks are complete

434

00:56:10,309 --> 00:55:34,200

ensuring everything looks good with the

435

00:56:10,319 --> 00:56:13,730

thank you

436

00:56:13,740 --> 00:56:17,030

ah

437

00:56:17,040 --> 00:56:25,849

yes

438

00:56:25,859 --> 00:56:33,740

Christmas

439

00:56:33,750 --> 00:56:44,089

[Music]

440

00:56:44,099 --> 00:56:52,210

come on

441

00:57:03,609 --> 00:56:54,650

confirmation coming from both astronauts

442

00:57:03,619 --> 00:57:09,609

and everyone is in here

443

00:57:17,510 --> 00:57:12,790

to open hold on

444

00:57:17,520 --> 00:57:20,250

oh

445

00:57:20,260 --> 00:57:27,370

[Music]

446

00:58:03,430 --> 00:57:29,030

my God

447

00:58:18,170 --> 00:58:08,150

I'm Steve you'll take the easyf to open

448

00:58:18,180 --> 00:58:25,210

open

449

00:58:31,849 --> 00:58:27,109

depressurization of the crew lock

450

00:58:36,049 --> 00:58:34,910

and we are handing over satellite

451
00:58:38,210 --> 00:58:36,059
Communications with the International

452
00:58:43,069 --> 00:58:38,220
Space Station we expect to regain that

453
00:58:47,809 --> 00:58:45,289
things continue to move smoothly this

454
00:58:49,849 --> 00:58:47,819
morning as we prepare for our astronauts

455
00:58:51,170 --> 00:58:49,859
to exit the hatch and conduct an

456
00:59:30,170 --> 00:58:51,180
approximately six and a half hour

457
00:59:34,309 --> 00:59:32,809
and Stacy Houston for Steve we heard you

458
00:59:39,049 --> 00:59:34,319
working on the Evie hat Tempest can you

459
00:59:46,930 --> 00:59:40,609
copy that and Woody can you verify the

460
00:59:52,970 --> 00:59:49,789
step nine complete

461
00:59:54,650 --> 00:59:52,980
okay we copy both thank you guys

462
00:59:56,450 --> 00:59:54,660
voice on the ground currently

463
00:59:58,609 --> 00:59:56,460

communication communicating with the

464

01:00:00,710 --> 00:59:58,619

astronauts as custom of britus they are

465

01:00:02,870 --> 01:00:00,720

in the center of your screen over to the

466

01:00:10,450 --> 01:00:02,880

bottom of the screen is and his left is

467

01:00:16,309 --> 01:00:13,849

the pressure in the crew lock crew lock

468

01:00:23,510 --> 01:00:16,319

portion of the quest airlock is now

469

01:00:32,569 --> 01:00:25,430

meanwhile the pressure inside the

470

01:00:37,970 --> 01:00:35,329

and this view of Sandy Fletcher today's

471

01:00:40,490 --> 01:00:37,980

lead spacewalk officer working through

472

01:02:17,569 --> 01:00:40,500

the tasks and relaying them to teams on

473

01:02:23,870 --> 01:02:20,530

blah

474

01:02:27,650 --> 01:02:23,880

as depressurization continues in the

475

01:02:29,650 --> 01:02:27,660

crew lock we are now under 2 PSI

476
01:02:32,990 --> 01:02:29,660
the International Space Station flying

477
01:02:34,849 --> 01:02:33,000
266 statute miles over the Indian Ocean

478
01:03:08,450 --> 01:02:34,859
will be coming up over the South Coast

479
01:03:08,460 --> 01:04:20,630
okay

480
01:04:20,640 --> 01:04:27,049
one

481
01:04:31,730 --> 01:04:29,089
okay so time copy that we're just

482
01:04:34,190 --> 01:04:31,740
lagging a little behind on the PCS I'll

483
01:04:50,210 --> 01:04:34,200
give you a go for step 10 in just a

484
01:04:55,609 --> 01:04:52,309
the whole time I'm guessing we're 30

485
01:05:34,970 --> 01:04:55,619
seconds to a minute out from that action

486
01:05:43,730 --> 01:05:38,030
okay Sultan takes the depressed Punk man

487
01:05:49,309 --> 01:05:46,069
copy that Sultana the UAA switch

488
01:05:51,349 --> 01:05:49,319

depressed pump power offs

489

01:05:53,510 --> 01:05:51,359

please

490

01:05:55,370 --> 01:05:53,520

off

491

01:05:57,710 --> 01:05:55,380

all right and with that you guys have a

492

01:06:00,109 --> 01:05:57,720

you guys can report your initial tether

493

01:06:02,809 --> 01:06:00,119

config to and for egress

494

01:06:10,430 --> 01:06:02,819

okay so it's on my left side on my left

495

01:06:20,990 --> 01:06:15,349

locked

496

01:06:22,370 --> 01:06:21,000

Hook is gate clothes fire locks the

497

01:06:24,289 --> 01:06:22,380

green reel

498

01:06:26,210 --> 01:06:24,299

drifting my mini workstation on my right

499

01:06:27,230 --> 01:06:26,220

hand side I have

500

01:06:28,849 --> 01:06:27,240

my

501
01:06:34,970 --> 01:06:28,859
lightweight feather

502
01:06:41,410 --> 01:06:37,309
I can see that Steve my alcohol is

503
01:06:47,470 --> 01:06:44,029
black on black

504
01:06:51,170 --> 01:06:47,480
my green reel is unlocked

505
01:06:53,390 --> 01:06:51,180
and Green Hope from the green wheel is

506
01:06:56,329 --> 01:06:53,400
connected to my red wheel

507
01:06:59,029 --> 01:06:56,339
so please get close locked back and back

508
01:07:01,970 --> 01:06:59,039
it wheel is unlocked

509
01:07:03,589 --> 01:07:01,980
and from the red wheel I have my red oh

510
01:07:05,870 --> 01:07:03,599
sorry my yellow hook

511
01:07:08,930 --> 01:07:05,880
it's connected to the green reel and

512
01:07:12,349 --> 01:07:08,940
it's gate closed black on black

513
01:07:14,990 --> 01:07:12,359

and the Red Hawk from the red wheel

514

01:07:16,190 --> 01:07:15,000
connected to my right during the

515

01:07:19,130 --> 01:07:16,200
extender

516

01:07:21,430 --> 01:07:19,140
and that hook is getting close black on

517

01:07:21,440 --> 01:07:28,609
sandal on the right

518

01:07:34,250 --> 01:07:30,710
I have my

519

01:07:37,010 --> 01:07:34,260
face together all Hulk is

520

01:07:39,170 --> 01:07:37,020
they close look black and black

521

01:07:42,049 --> 01:07:39,180
artwork is connected to the internal

522

01:07:48,650 --> 01:07:45,049
gay clubs back on back

523

01:07:50,510 --> 01:07:48,660
my left side I have a different extender

524

01:07:52,670 --> 01:07:50,520
and they have my

525

01:07:55,670 --> 01:07:52,680
second waste tether and small hockey

526

01:07:56,809 --> 01:07:55,680

gate was lost black on black Dodge truck

527

01:08:03,109 --> 01:07:56,819

here is connected to my main road

528

01:08:09,289 --> 01:08:07,490

this place that we have good look at

529

01:08:20,689 --> 01:08:09,299

okay Stephen Sultan that's a good load

530

01:08:25,610 --> 01:08:23,450

NASA astronaut Steve Bowen and UAE

531

01:08:28,309 --> 01:08:25,620

astronaut sultanaadi reporting their

532

01:08:30,110 --> 01:08:28,319

configuration of tethers their mini

533

01:08:38,450 --> 01:08:30,120

workstation and other equipment before

534

01:08:43,189 --> 01:08:41,510

ER wants the DPP gets me or zero you can

535

01:08:44,329 --> 01:08:43,199

expect them over time

536

01:08:50,090 --> 01:08:44,339

okay

537

01:08:57,950 --> 01:08:52,910

all right body down here a little bit

538

01:10:00,830 --> 01:09:00,610

and the software are important for it

539

01:10:00,840 --> 01:10:45,050

now less than 0.9 PSI in the crew lock

540

01:11:36,130 --> 01:10:46,550

thank you

541

01:11:40,910 --> 01:11:38,810

aside from the spacewalk preparations

542

01:11:42,290 --> 01:11:40,920

that we're watching right now on the

543

01:11:45,050 --> 01:11:42,300

International Space Station Andre

544

01:11:46,610 --> 01:11:45,060

fedayev and Dimitri patelan as well as

545

01:11:49,970 --> 01:11:46,620

Frank Rubio are currently in the

546

01:11:51,470 --> 01:11:49,980

exercise portions of their day

547

01:11:53,689 --> 01:11:51,480

astronauts on the International Space

548

01:11:56,689 --> 01:11:53,699

Station need to exercise for about two

549

01:12:06,790 --> 01:11:56,699

hours a day to maintain muscle mass and

550

01:12:12,649 --> 01:12:09,830

that exercise will be limited and

551
01:12:15,709 --> 01:12:12,659
actually restricted while the candid arm

552
01:12:17,630 --> 01:12:15,719
2 is in use today Steve Bowen will be on

553
01:12:20,570 --> 01:12:17,640
the end of the candid arm for part of

554
01:12:23,450 --> 01:12:20,580
the spacewalk that'll be controlled by

555
01:12:26,090 --> 01:12:23,460
NASA's Frank Rubio as well as monitored

556
01:12:27,470 --> 01:12:26,100
by Woody hoberg our ground IV who's in

557
01:12:29,330 --> 01:12:27,480
the center of your screen and who worked

558
01:12:31,310 --> 01:12:29,340
this morning to suit up the two

559
01:13:36,470 --> 01:12:31,320
astronauts now in the crew lock portion

560
01:13:36,480 --> 01:14:00,950
foreign

561
01:14:04,430 --> 01:14:02,510
thank you

562
01:14:07,010 --> 01:14:04,440
stationed in Houston

563
01:14:08,750 --> 01:14:07,020

an update we are at about 30 minutes of

564

01:14:10,610 --> 01:14:08,760

depressed time looking at our

565

01:14:12,290 --> 01:14:10,620

predictions we are expecting to need the

566

01:14:13,910 --> 01:14:12,300

entire 45 minutes before we take action

567

01:14:17,510 --> 01:14:13,920

so you can expect another 15 minutes of

568

01:14:17,520 --> 01:14:44,590

s

569

01:14:44,600 --> 01:14:50,590

how are we doing

570

01:14:59,890 --> 01:14:53,390

three hours we're able to accommodate

571

01:15:05,270 --> 01:15:01,790

depressurization of the crew law

572

01:15:07,610 --> 01:15:05,280

continues now 0.69 PSI

573

01:16:10,070 --> 01:15:07,620

anticipating about 15 more minutes of

574

01:16:13,669 --> 01:16:11,930

it's a busy time aboard the

575

01:16:15,950 --> 01:16:13,679

International Space Station as always

576
01:16:18,050 --> 01:16:15,960
these days

577
01:16:21,290 --> 01:16:18,060
in addition to this spacewalk there are

578
01:16:23,570 --> 01:16:21,300
two post Cosmos spacewalks coming up in

579
01:16:24,830 --> 01:16:23,580
may we recently saw the departure of

580
01:16:26,209 --> 01:16:24,840
Northrop grumman's 18th commercial

581
01:16:29,330 --> 01:16:26,219
resupply mission to the International

582
01:16:32,090 --> 01:16:29,340
Space Station on April 21st and just

583
01:16:34,370 --> 01:16:32,100
before that spacex's Commerce 27th

584
01:16:36,350 --> 01:16:34,380
commercial resupply Mission departed on

585
01:16:39,770 --> 01:16:36,360
April 15th

586
01:16:42,110 --> 01:16:39,780
we expect to see another SpaceX resupply

587
01:16:44,209 --> 01:16:42,120
Mission the 28th this summer which will

588
01:16:46,669 --> 01:16:44,219

bring up two new International Space

589

01:16:49,189 --> 01:16:46,679

Station rollout solar arrays we refer to

590

01:16:50,930 --> 01:16:49,199

those as irosis part of today's tasks

591

01:16:53,330 --> 01:16:50,940

are preparing the space station for

592

01:18:33,229 --> 01:16:53,340

installation of those irosas on a future

593

01:20:16,310 --> 01:19:33,950

foreign

594

01:20:16,320 --> 01:20:40,550

is

595

01:20:40,560 --> 01:20:46,810

once you get uh

596

01:20:52,550 --> 01:20:49,430

depressurization continues in the crew

597

01:20:57,649 --> 01:20:52,560

lock bringing the airlock itself down to

598

01:21:04,370 --> 01:20:59,750

this is about a 45 minute process we

599

01:21:04,380 --> 01:22:21,770

ah

600

01:22:21,780 --> 01:22:27,229

like this

601
01:22:32,270 --> 01:22:29,570
we already

602
01:22:35,330 --> 01:22:32,280
completed

603
01:22:35,340 --> 01:22:59,330
keep history

604
01:23:05,330 --> 01:23:01,810
not about 0.5

605
01:23:08,630 --> 01:23:05,340
PSI in the crew lock

606
01:23:10,370 --> 01:23:08,640
again this is down from 14.7 PSI where

607
01:23:13,550 --> 01:23:10,380
we started today and with the rest of

608
01:23:15,470 --> 01:23:13,560
the space station is at as well as

609
01:23:35,750 --> 01:23:15,480
what's very similar to what we

610
01:23:39,649 --> 01:23:37,729
thank you

611
01:23:41,930 --> 01:23:39,659
all right Stephen Colton I'm showing

612
01:23:45,050 --> 01:23:41,940
crew lock pressure less than 26

613
01:23:47,630 --> 01:23:45,060

millimeters Steve can you verify the

614

01:23:50,410 --> 01:23:47,640

easy hatch gauge it shows less than zero

615

01:23:50,420 --> 01:23:56,390

looks like about 0.4

616

01:24:01,430 --> 01:23:58,610

all right with that Steve you have to go

617

01:24:03,290 --> 01:24:01,440

to open and Stow the EV hatch and

618

01:24:05,750 --> 01:24:03,300

reminder once you get it off the seals

619

01:24:09,350 --> 01:24:05,760

you'll want to get the hash M pev to

620

01:24:17,330 --> 01:24:09,360

closed all right I am opening the

621

01:24:20,689 --> 01:24:18,770

good reports here in Mission Control

622

01:24:27,729 --> 01:24:20,699

Houston as well as from the crew aboard

623

01:24:32,990 --> 01:24:30,050

the hatch is now open and the crew lock

624

01:24:34,970 --> 01:24:33,000

itself is at a vacuum

625

01:24:36,770 --> 01:24:34,980

again we will start our timer for

626

01:24:40,990 --> 01:24:36,780

today's space walk once the spacesuits

627

01:24:50,830 --> 01:24:43,189

is open

628

01:24:50,840 --> 01:24:55,970

it is closed practice

629

01:25:00,890 --> 01:24:58,189

okay Steve copy that I can verify that

630

01:25:02,990 --> 01:25:00,900

the emergency mpev is closed

631

01:25:05,149 --> 01:25:03,000

gentlemen it's time for me to hand you

632

01:25:08,090 --> 01:25:05,159

over to Ann it was a real honor suiting

633

01:25:10,310 --> 01:25:08,100

you up this morning Sultan you're making

634

01:25:12,530 --> 01:25:10,320

history today congratulations we're so

635

01:25:14,270 --> 01:25:12,540

excited for you hope you both have a

636

01:25:16,550 --> 01:25:14,280

great Eva and we'll see you in just a

637

01:25:18,470 --> 01:25:16,560

few hours fantastic job Woody thank you

638

01:25:28,250 --> 01:25:18,480

very very much thanks for all the help

639

01:25:39,970 --> 01:25:31,610

and now that Woody hoberg's job as suit

640

01:25:46,250 --> 01:25:43,310

fantastic so with that we can start our

641

01:25:47,990 --> 01:25:46,260

post-d press on both dcms you're going

642

01:25:51,890 --> 01:25:48,000

to stagger your switch throws and you

643

01:25:51,900 --> 01:25:59,810

if you want particle in the battery

644

01:25:59,820 --> 01:26:03,970

if you threw going to Bedford

645

01:26:11,030 --> 01:26:07,729

I've got the blank throw bite

646

01:26:16,129 --> 01:26:13,790

and we can't do the same

647

01:26:18,169 --> 01:26:16,139

okay we copy both power to bats and you

648

01:26:23,209 --> 01:26:18,179

can switch your display to Pro to verify

649

01:26:30,590 --> 01:26:26,209

functional

650

01:26:37,850 --> 01:26:33,290

Sultan on the UIA you can switch power

651
01:26:42,229 --> 01:26:37,860
ev1 and 2 to off off and check that all

652
01:26:48,830 --> 01:26:44,270
right coffee and work

653
01:26:55,310 --> 01:26:48,840
V1 power off it is off

654
01:27:00,110 --> 01:26:57,590
okay copy for both of you you can now

655
01:27:03,709 --> 01:27:00,120
disconnect your SCU from your DCM

656
01:27:07,010 --> 01:27:03,719
install the DCM cover and Stow your SCU

657
01:27:07,020 --> 01:27:17,090
at work if you want

658
01:27:21,470 --> 01:27:19,189
in the center of your screen is NASA

659
01:27:23,030 --> 01:27:21,480
astronaut and McLean

660
01:27:24,709 --> 01:27:23,040
she's going to be the primary

661
01:27:32,870 --> 01:27:24,719
Communicator with the astronauts while

662
01:27:32,880 --> 01:27:49,010
every employees

663
01:27:49,020 --> 01:27:58,669

okay we copy that you both have the DCM

664

01:27:58,679 --> 01:28:11,810

stuff

665

01:28:17,450 --> 01:28:14,090

what's up

666

01:28:34,610 --> 01:28:17,460

our circles on the correct side of your

667

01:28:34,620 --> 01:28:44,750

foreign

668

01:28:48,770 --> 01:28:47,510

copy both su's are in the pouches at

669

01:28:59,750 --> 01:28:48,780

this time you can check that the

670

01:29:03,229 --> 01:29:02,030

from heavy for both crew on your dcms

671

01:29:15,590 --> 01:29:03,239

you can take your temperature control

672

01:29:15,600 --> 01:29:21,470

full valves

673

01:29:29,510 --> 01:29:25,910

copy leave it to Max hop

674

01:29:33,250 --> 01:29:29,520

copy you may now both switch water to on

675

01:29:39,770 --> 01:29:36,770

uh what is on if you want

676

01:29:43,189 --> 01:29:39,780

your water is on

677

01:29:46,729 --> 01:29:43,199

copy both now in your dcms check blank

678

01:29:46,739 --> 01:29:52,850

foreign

679

01:29:57,110 --> 01:29:54,709

you can now set your temperature control

680

01:29:58,729 --> 01:29:57,120

valve as desired and let us know what

681

01:30:00,470 --> 01:29:58,739

that setting is and just a reminder

682

01:30:02,689 --> 01:30:00,480

throughout the Eva today to please

683

01:30:10,790 --> 01:30:02,699

report your changes and try not to do

684

01:30:10,800 --> 01:30:31,970

if you want copies

685

01:30:37,910 --> 01:30:34,129

okay 82

686

01:30:37,920 --> 01:30:43,430

if you want to this little setting is

687

01:30:43,440 --> 01:30:51,229

poor when I get there

688

01:30:56,870 --> 01:30:54,050

kv-1 initial setting is for

689

01:31:02,590 --> 01:30:56,880

okay we copy five and four thank you can

690

01:31:09,950 --> 01:31:06,830

the three easy one 4.3

691

01:31:12,590 --> 01:31:09,960

and 2.3 for images

692

01:31:15,110 --> 01:31:12,600

copy 4.3 and you can set your visors as

693

01:31:18,830 --> 01:31:15,120

required we're about five minutes from a

694

01:31:18,840 --> 01:31:26,270

and I agree it is dark outside

695

01:31:29,990 --> 01:31:28,189

okay and with that we can verify that

696

01:31:31,250 --> 01:31:30,000

your suit parameters look good so

697

01:31:32,870 --> 01:31:31,260

that'll take us and we'll take care of

698

01:31:34,430 --> 01:31:32,880

the last step on the Post Street Press

699

01:31:35,689 --> 01:31:34,440

so with that we'll step into the

700

01:31:37,790 --> 01:31:35,699

procedures

701
01:31:41,649 --> 01:31:37,800
so when we're ready Steve your go to

702
01:31:41,659 --> 01:31:51,470
opening the thermal cover

703
01:31:55,010 --> 01:31:53,149
and Steve remind her to release the hook

704
01:31:56,750 --> 01:31:55,020
for the magnetic plate d-ring and attach

705
01:32:15,830 --> 01:31:56,760
the hook to the stowage tether point and

706
01:32:20,090 --> 01:32:18,169
as we get a live view from outside the

707
01:32:23,330 --> 01:32:20,100
quest airlock we have confirmation that

708
01:32:25,250 --> 01:32:23,340
the spacewalk itself began at 8 11 A.M

709
01:32:33,050 --> 01:32:25,260
central time today as the astronauts

710
01:32:33,060 --> 01:32:40,310
all right and that's complete

711
01:32:58,010 --> 01:32:42,709
copy you are now go to egress the

712
01:32:58,020 --> 01:33:00,649
oh

713
01:33:04,550 --> 01:33:02,930

and sultan's heat aggresses your next

714

01:33:06,229 --> 01:33:04,560

step is going to be to transfer the crew

715

01:33:13,729 --> 01:33:06,239

lock bags out if you want to get eyes on

716

01:33:13,739 --> 01:33:18,110

okay I was expecting the idea back

717

01:33:23,990 --> 01:33:18,740

um

718

01:33:28,490 --> 01:33:26,030

yes you can pass those bags in any order

719

01:33:31,550 --> 01:33:28,500

okay

720

01:33:40,310 --> 01:33:33,910

everybody

721

01:33:46,310 --> 01:33:42,709

and Steve as you get Set uh please also

722

01:33:46,320 --> 01:33:51,050

all right let me get myself here

723

01:33:51,060 --> 01:33:55,910

I wish each other

724

01:34:00,169 --> 01:33:58,010

first out of the hatch this morning is

725

01:34:02,810 --> 01:34:00,179

NASA astronaut Steve Bowen

726

01:34:05,629 --> 01:34:02,820

he is ev1 you can differentiate between

727

01:34:23,330 --> 01:34:05,639

he and Sultan al-niadi by the red stripe

728

01:34:23,340 --> 01:34:38,629

foreign

729

01:34:38,639 --> 01:34:44,689

back number three

730

01:34:48,229 --> 01:34:46,430

and I know you're tracking but crew lock

731

01:34:50,930 --> 01:34:48,239

bags two and three are going to be

732

01:34:55,669 --> 01:34:50,940

stowed on the airlock Zenith of the

733

01:35:04,250 --> 01:34:57,530

556

734

01:35:08,450 --> 01:35:06,229

the crew members start their day with

735

01:35:11,530 --> 01:35:08,460

Sultana onayati passing out some of the

736

01:35:15,950 --> 01:35:13,490

passing out some of the bags that will

737

01:35:19,010 --> 01:35:15,960

be used to Steve Bowen he will then Stow

738

01:35:21,649 --> 01:35:19,020

those on a handrail for you Slater

739

01:35:23,510 --> 01:35:21,659

air lock threat

740

01:35:38,090 --> 01:35:23,520

record back

741

01:35:43,490 --> 01:35:40,850

all right we'll put that up on there

742

01:36:31,610 --> 01:35:43,500

on the hearing your Center

743

01:36:35,510 --> 01:36:33,830

as you can see the color is changing

744

01:36:38,330 --> 01:36:35,520

outside of the International Space

745

01:36:42,410 --> 01:36:38,340

Station we will be entering an orbital

746

01:36:44,930 --> 01:36:42,420

Sunrise orbital daylight very soon

747

01:36:46,610 --> 01:36:44,940

the lights on the helmet camera of Steve

748

01:36:49,850 --> 01:36:46,620

Bowen down in the bottom left of your

749

01:36:54,470 --> 01:36:52,010

the International Space Station sees 16

750

01:36:56,030 --> 01:36:54,480

sunrises and sunsets a day so these

751

01:36:58,189 --> 01:36:56,040

spacewalkers will work in alternating

752

01:37:01,129 --> 01:36:58,199

light and darkness throughout their time

753

01:37:08,629 --> 01:37:03,770

all right grew up back three about five

754

01:37:21,830 --> 01:37:10,430

and we copy Steve Cook crew lock bag

755

01:37:26,270 --> 01:37:24,110

and Sultan just a reminder the large

756

01:37:27,709 --> 01:37:26,280

small rhetts from these crew lock bags

757

01:37:32,689 --> 01:37:27,719

are going to get stowed on the airlock

758

01:37:40,790 --> 01:37:36,410

I got coffee and the first bag of the

759

01:37:40,800 --> 01:37:48,709

copy

760

01:38:04,910 --> 01:37:51,709

okay I'm ready for bag number two

761

01:38:16,330 --> 01:38:08,030

five uh there's time as long as we get

762

01:38:16,340 --> 01:38:27,350

feedback number two

763

01:38:31,370 --> 01:38:29,450

these bags at oneyari are is

764

01:38:33,610 --> 01:38:31,380

transferring to Bowen are stored on the

765

01:38:36,169 --> 01:38:33,620

same handrail

766

01:38:39,050 --> 01:38:36,179

they'll be used later they contain tools

767

01:38:42,070 --> 01:38:39,060

for uh different tasks

768

01:39:06,229 --> 01:38:42,080

recently airlock

769

01:39:06,239 --> 01:39:10,430

here we go

770

01:39:10,440 --> 01:39:30,410

thanks yeah back number two heading up

771

01:39:30,420 --> 01:39:47,229

already

772

01:39:53,090 --> 01:39:50,750

and that crew lock bag also goes to 556

773

01:39:55,250 --> 01:39:53,100

and that large small red Sultan also

774

01:39:57,470 --> 01:39:55,260

goes to airlock dingring extender and

775

01:40:01,669 --> 01:39:57,480

the next item to pass out will be the

776

01:40:01,679 --> 01:40:34,450

I'll be honest

777

01:40:39,110 --> 01:40:37,510

attached to 556

778

01:40:41,750 --> 01:40:39,120

.

779

01:40:45,189 --> 01:40:41,760

the back three Zone with a red back she

780

01:40:50,330 --> 01:40:48,110

okay we copied both crew locks on 556

781

01:40:54,290 --> 01:40:50,340

nicely done and the next thing is to

782

01:40:54,300 --> 01:41:01,070

thanks

783

01:41:01,080 --> 01:41:12,950

first

784

01:41:17,330 --> 01:41:15,890

safer hand control module okay I think

785

01:41:19,729 --> 01:41:17,340

that the handle is up doesn't

786

01:41:22,310 --> 01:41:19,739

necessarily mean the hand control module

787

01:41:27,649 --> 01:41:22,320

is deployed that takes us to the generic

788

01:41:27,659 --> 01:42:00,109

.
789
01:42:00,119 --> 01:42:13,250
oh

790
01:42:39,609 --> 01:42:17,330
is

791
01:42:39,619 --> 01:42:47,090
and work

792
01:42:55,330 --> 01:42:49,910
on your way all right good with the hook

793
01:42:55,340 --> 01:43:15,169
a minute

794
01:43:19,370 --> 01:43:17,330
another short Handover with the tracking

795
01:43:20,450 --> 01:43:19,380
data and relay satellite systems that

796
01:43:23,090 --> 01:43:20,460
help us communicate with the

797
01:43:25,370 --> 01:43:23,100
International Space Station

798
01:43:27,590 --> 01:43:25,380
your crew members continue to prepare

799
01:43:34,250 --> 01:43:27,600
the crew lock bags that they will use

800
01:43:34,260 --> 01:43:42,950
I've got the small hook on 550.

801
01:43:47,810 --> 01:43:45,530
wake up a small hook on 550

802
01:43:49,910 --> 01:43:47,820
and Sultan uh while you wait for him to

803
01:43:52,430 --> 01:43:49,920
come back to the Ida bag we'd like you

804
01:44:29,570 --> 01:43:52,440
to check your safer handles and ensure

805
01:44:37,250 --> 01:44:32,510
hey I got the big hook on

806
01:44:37,260 --> 01:44:41,870
and Steve was that 546

807
01:44:46,370 --> 01:44:44,689
-546

808
01:44:52,669 --> 01:44:46,380
lower

809
01:44:59,209 --> 01:44:57,350
so head back to your office handles

810
01:45:01,250 --> 01:44:59,219
down

811
01:45:02,689 --> 01:45:01,260
okay copy Sultan and Steve would like

812
01:45:04,490 --> 01:45:02,699
you to do the same thing with your safer

813
01:45:14,590 --> 01:45:04,500

handles and just give them a tap and

814

01:45:19,250 --> 01:45:17,450

in Sultan the next bag will be the Ida

815

01:46:00,530 --> 01:45:19,260

bag and this large small rat will also

816

01:46:21,229 --> 01:46:17,169

thank you

817

01:46:28,129 --> 01:46:23,689

and we copy Steve so you can get the Ida

818

01:46:43,129 --> 01:46:38,149

okay

819

01:46:48,590 --> 01:46:43,139

almost there

820

01:47:02,330 --> 01:46:50,300

um

821

01:47:02,340 --> 01:47:07,669

NASA's Anne McClain are ground IV today

822

01:47:12,229 --> 01:47:09,350

she lived aboard the International Space

823

01:47:15,410 --> 01:47:12,239

Station during Expeditions 58 and 59 and

824

01:47:17,450 --> 01:47:15,420

was a lead spacewalker on two spacewalks

825

01:47:43,209 --> 01:47:17,460

herself

826

01:47:50,930 --> 01:47:46,270

is attached

827

01:47:55,910 --> 01:47:53,090

okay let me get this stuck down where I

828

01:48:05,709 --> 01:47:57,790

okay

829

01:48:11,330 --> 01:48:08,570

until Tom the next bag will be crew lock

830

01:48:13,250 --> 01:48:11,340

bag one and you can pass that out to

831

01:48:15,410 --> 01:48:13,260

Steve or you can egress with it your

832

01:48:21,070 --> 01:48:15,420

choice reminder to keep the large small

833

01:48:24,890 --> 01:48:23,030

Steve and then

834

01:48:28,090 --> 01:48:24,900

the Hulk

835

01:48:30,709 --> 01:48:28,100

when we have a red hornet

836

01:48:33,229 --> 01:48:30,719

Kathy and Steve as you wait for that um

837

01:48:35,030 --> 01:48:33,239

can you check the strap on the thermal

838

01:48:36,169 --> 01:48:35,040

cover the one that you cinched and to

839

01:49:00,770 --> 01:48:36,179

make sure that there are six lines

840

01:49:00,780 --> 01:49:32,780

foreign

841

01:49:32,790 --> 01:49:38,750

[Music]

842

01:49:38,760 --> 01:49:41,990

copy thanks for the check

843

01:49:42,000 --> 01:49:44,930

all right

844

01:49:44,940 --> 01:49:49,490

well I'm unfamiliar attack is uh

845

01:49:54,129 --> 01:49:51,410

shows

846

01:49:57,109 --> 01:49:54,139

right above I so

847

01:49:58,970 --> 01:49:57,119

give me an idea at some point

848

01:50:02,709 --> 01:49:58,980

appreciate that

849

01:50:02,719 --> 01:50:07,070

Kathy will do

850

01:50:11,450 --> 01:50:08,390

all right sometime I'm ready for your

851
01:50:11,460 --> 01:50:18,830
down your way

852
01:50:18,840 --> 01:50:32,209
not quite

853
01:50:37,010 --> 01:50:35,149
a rep you're back

854
01:50:40,010 --> 01:50:37,020
to release the

855
01:50:42,350 --> 01:50:40,020
electorate hold up

856
01:50:45,250 --> 01:50:42,360
here it comes

857
01:50:47,709 --> 01:50:45,260
oh she's actually this stays with uh

858
01:50:51,189 --> 01:50:47,719
yeah

859
01:50:56,090 --> 01:50:53,209
right here

860
01:50:57,830 --> 01:50:56,100
thank you for the reminder as well

861
01:51:00,229 --> 01:50:57,840
you're really here right now and now

862
01:51:02,209 --> 01:51:00,239
hold on to it you all right Donuts I got

863
01:51:04,550 --> 01:51:02,219

a hand on I gotta write on it

864

01:51:06,530 --> 01:51:04,560

and to release the big hook and then it

865

01:51:10,189 --> 01:51:06,540

will be I'll put it on all right and

866

01:51:14,209 --> 01:51:11,870

yeah good words on that large small red

867

01:51:16,970 --> 01:51:14,219

and just another note on this bag Sultan

868

01:51:18,950 --> 01:51:16,980

if you're going to want to use your brt

869

01:51:21,709 --> 01:51:18,960

during translation adaptation then you

870

01:51:24,649 --> 01:51:21,719

can go ahead and Stow temperatures lock

871

01:51:25,970 --> 01:51:24,659

bag one on that airlock handrail if

872

01:51:27,770 --> 01:51:25,980

you're not going to use your brt then

873

01:51:35,830 --> 01:51:27,780

once you eat grass we'll get it on your

874

01:51:40,609 --> 01:51:37,609

waste better

875

01:51:46,729 --> 01:51:44,030

s right now

876

01:51:51,470 --> 01:51:46,739

and then you can drop it on the way out

877

01:51:55,910 --> 01:51:53,270

all right I have

878

01:51:58,070 --> 01:51:55,920

Mercury walk back by the big hook on the

879

01:52:04,910 --> 01:51:58,080

airlock handrail

880

01:52:04,920 --> 01:52:09,169

and I will clear the hats for you

881

01:52:09,179 --> 01:52:23,870

thank you Steve

882

01:52:23,880 --> 01:52:28,370

then I'm ready to decrease

883

01:52:28,380 --> 01:52:36,950

Sultan you are go to egress

884

01:52:40,910 --> 01:52:38,870

look at the

885

01:53:03,530 --> 01:52:40,920

thank you

886

01:53:08,390 --> 01:53:05,570

the astronauts have been working through

887

01:53:10,790 --> 01:53:08,400

preparation of their tool bags

888

01:53:20,330 --> 01:53:10,800

as well as ensuring their tethers are in

889

01:54:08,629 --> 01:53:22,850

now preparing for UAE astronaut Sultan

890

01:54:08,639 --> 01:54:23,120

foreign

891

01:54:23,130 --> 01:54:27,649

[Music]

892

01:54:33,010 --> 01:54:31,070

between my safety killer

893

01:55:05,149 --> 01:54:33,020

okay

894

01:55:05,159 --> 01:55:55,270

foreign

895

01:56:00,709 --> 01:55:57,950

once you get out and set your next step

896

01:56:02,510 --> 01:56:00,719

is to receive crew lock bag one uh and

897

01:56:04,010 --> 01:56:02,520

stow it if you want to do that right now

898

01:56:10,510 --> 01:56:04,020

otherwise you can leave it tense node

899

01:56:10,520 --> 01:56:20,390

I can't receive

900

01:56:26,090 --> 01:56:23,229

at 30 minutes into today's space walk

901
01:56:28,010 --> 01:56:26,100
UAE astronauts Sultan al-nayadi has

902
01:56:30,109 --> 01:56:28,020
egressed the hatch the first ever

903
01:56:48,050 --> 01:56:30,119
spacewalk for an astronaut from the

904
01:56:52,669 --> 01:56:49,910
another good look at both of our space

905
01:56:54,590 --> 01:56:52,679
Walkers here on the right you see NASA's

906
01:56:56,330 --> 01:56:54,600
Steve Bowen with red stripes around the

907
01:56:57,830 --> 01:56:56,340
legs of his spacesuit

908
01:57:00,830 --> 01:56:57,840
that'll help you tell the difference

909
01:57:17,750 --> 01:57:00,840
from him and Sultan al-nayadi who's on

910
01:57:21,770 --> 01:57:19,790
Steve while he is working crew lock bag

911
01:57:23,810 --> 01:57:21,780
one I just want to let you know that we

912
01:57:26,209 --> 01:57:23,820
noticed that the wire tie caddy

913
01:57:28,550 --> 01:57:26,219

um is not staying tucked to the Ida bag

914

01:57:29,810 --> 01:57:28,560

I just wanted to put your awareness on

915

01:57:34,930 --> 01:57:29,820

it in case you want to tuck it in

916

01:57:56,990 --> 01:57:37,370

pulled it out

917

01:57:57,000 --> 01:58:06,490

[Music]

918

01:58:12,709 --> 01:58:10,609

Look Back start to my brt

919

01:58:21,530 --> 01:58:12,719

okay copy Sultan you can now turn on

920

01:58:21,540 --> 01:58:25,230

I hope that should be better

921

01:58:30,649 --> 01:58:27,450

[Music]

922

01:58:30,659 --> 01:58:34,370

key ingredients

923

01:58:38,930 --> 01:58:36,950

okay we copy your heck is on and just a

924

01:58:41,089 --> 01:58:38,940

quick note to congratulate the UAE for

925

01:58:42,410 --> 01:58:41,099

having their flag on an emu outside the

926
01:58:43,310 --> 01:58:42,420
International Space Station for the

927
01:58:45,229 --> 01:58:43,320
first time

928
01:58:49,729 --> 01:58:45,239
and gentlemen can get it set up for your

929
01:58:49,739 --> 01:58:57,770
all right

930
01:58:57,780 --> 01:59:00,709
okay

931
01:59:09,550 --> 01:59:03,169
I see two green lights

932
01:59:18,470 --> 01:59:13,430
up the three latches up one is kick

933
01:59:20,270 --> 01:59:18,480
that's a biology I see your uh

934
01:59:22,729 --> 01:59:20,280
right

935
01:59:23,890 --> 01:59:22,739
each other

936
01:59:26,149 --> 01:59:23,900
um

937
01:59:31,870 --> 01:59:26,159
that one goes back to your luck to get

938
01:59:39,890 --> 01:59:35,930

which is unlocked and the yellow hook

939

01:59:41,810 --> 01:59:39,900

it blocked okay green reel which is

940

01:59:44,030 --> 01:59:41,820

unlocked

941

01:59:46,490 --> 01:59:44,040

Dubai

942

01:59:48,109 --> 01:59:46,500

Right Way feathers uh which is gate

943

01:59:51,609 --> 01:59:48,119

close fire to watch

944

01:59:53,770 --> 01:59:51,619

on me so I feel to the kitchen thing

945

01:59:56,390 --> 01:59:53,780

never handles

946

01:59:59,030 --> 01:59:56,400

handles again

947

02:00:04,149 --> 01:59:59,040

so you're left break your handle down to

948

02:00:04,159 --> 02:00:25,390

full time

949

02:00:33,770 --> 02:00:29,270

Zone brt and mineral station

950

02:00:35,930 --> 02:00:33,780

right Abraham delays down

951
02:00:40,129 --> 02:00:35,940
uh

952
02:00:40,139 --> 02:00:46,250
the right love you black

953
02:00:46,260 --> 02:01:00,240
is connected by anchor heart boys

954
02:01:00,250 --> 02:01:12,830
[Music]

955
02:01:12,840 --> 02:01:16,250
thank you okay

956
02:01:20,570 --> 02:01:18,770
I'll check those when I dropped them big

957
02:01:23,270 --> 02:01:20,580
cool I think you're in a good country

958
02:01:25,430 --> 02:01:23,280
thank you if you have this dry but I

959
02:01:29,450 --> 02:01:25,440
have to try

960
02:01:32,390 --> 02:01:31,070
Steve your next step is going to be to

961
02:01:34,430 --> 02:01:32,400
translate out to the Anchor hook

962
02:01:36,410 --> 02:01:34,440
location up the seat of spur and out

963
02:01:38,990 --> 02:01:36,420

face one and you're looking for mile

964

02:01:40,790 --> 02:01:39,000

marker 5760

965

02:01:43,550 --> 02:01:40,800

Sultan you're gonna hang out right there

966

02:01:46,250 --> 02:01:43,560

uh once Steve is clear you contend the

967

02:01:47,930 --> 02:01:46,260

thermal cover hatch closed as much as

968

02:01:50,149 --> 02:01:47,940

you can obviously won't go all the way

969

02:01:53,930 --> 02:01:50,159

and you can perform translation

970

02:01:53,940 --> 02:01:57,050

copy that

971

02:02:02,270 --> 02:01:58,930

60

972

02:02:06,709 --> 02:02:04,490

. Steve a reminder as you go along phase

973

02:02:09,050 --> 02:02:06,719

one we have those test cables out so

974

02:02:13,430 --> 02:02:09,060

just avoid introvertent contact on the

975

02:02:20,990 --> 02:02:15,950

Mr the voice of test Stables

976

02:02:25,010 --> 02:02:22,490

the astronauts have completed their

977

02:02:28,209 --> 02:02:25,020

buddy checks along the way we heard a

978

02:02:32,330 --> 02:02:30,229

acronyms that we'll continue to hear

979

02:02:34,609 --> 02:02:32,340

throughout the spacewalk

980

02:02:38,930 --> 02:02:34,619

one of those is the hecka that's the

981

02:02:43,790 --> 02:02:41,390

as well as the wvs the wireless video

982

02:02:47,990 --> 02:02:43,800

system those will help us get views from

983

02:02:50,750 --> 02:02:48,000

the helmet cameras on the astronauts

984

02:02:52,550 --> 02:02:50,760

additionally we heard the mws that's the

985

02:02:54,350 --> 02:02:52,560

mini workstation that's attached to the

986

02:02:56,450 --> 02:02:54,360

astronauts themselves

987

02:03:06,169 --> 02:02:56,460

as well as the brt the body restraint

988

02:03:09,109 --> 02:03:07,850

and we can't be Steve we see you out

989

02:03:10,729 --> 02:03:09,119

there just for your awareness we have

990

02:03:12,410 --> 02:03:10,739

all the external cameras we do not have

991

02:03:15,109 --> 02:03:12,420

your uh helmet cams yet we're working

992

02:03:19,250 --> 02:03:17,209

okay

993

02:03:21,350 --> 02:03:19,260

right now Steve Bowen has moved to the

994

02:03:23,209 --> 02:03:21,360

CDA cart that's the crew equipment

995

02:03:25,129 --> 02:03:23,219

translation Aid

996

02:03:26,450 --> 02:03:25,139

meanwhile on screen here is Sultan

997

02:03:33,950 --> 02:03:26,460

al-nayari

998

02:03:38,149 --> 02:03:35,810

the main hatch on

999

02:03:40,310 --> 02:03:38,159

the quest airlock will remain open in

1000

02:03:48,589 --> 02:03:40,320

case the astronauts needed to Ingress

1001
02:03:52,609 --> 02:03:51,050
as this is his first spacewalk he also

1002
02:03:54,890 --> 02:03:52,619
has a little bit of extra time to get

1003
02:04:37,149 --> 02:03:54,900
used to maneuvering outside in the

1004
02:04:42,350 --> 02:04:39,669
and see we get see you getting toward

1005
02:04:45,709 --> 02:04:42,360
57.60 and you're going to be placing the

1006
02:04:47,209 --> 02:04:45,719
anchors just Nader of 5760 the first

1007
02:04:50,030 --> 02:04:47,219
hand rail you're going to be looking for

1008
02:04:54,729 --> 02:04:50,040
is 3011 and that's the one that is

1009
02:04:54,739 --> 02:05:01,070
mile marker

1010
02:05:01,080 --> 02:05:10,250
foreign

1011
02:05:14,390 --> 02:05:13,129
one

1012
02:05:17,149 --> 02:05:14,400
that's what I'm looking for correct

1013
02:05:19,209 --> 02:05:17,159

affirmative on 3011 you're going to drop

1014

02:05:50,870 --> 02:05:19,219

your anchor hook ev1 anchor hook

1015

02:05:55,129 --> 02:05:52,729

it is closed

1016

02:06:01,070 --> 02:05:55,139

knock on the Block it's locked

1017

02:06:01,080 --> 02:06:05,470

a lot

1018

02:06:10,669 --> 02:06:08,149

okay good word Steve you're now going to

1019

02:06:14,330 --> 02:06:10,679

go just inboard

1020

02:06:16,490 --> 02:06:14,340

to the diagonal handrail 3217 and you're

1021

02:06:22,189 --> 02:06:16,500

going to put Sultan's ev2 anchor on

1022

02:06:34,729 --> 02:06:23,990

three two one seven

1023

02:06:34,739 --> 02:06:38,149

all right um

1024

02:06:41,629 --> 02:06:40,490

enclosed by the locks on three two one

1025

02:06:47,030 --> 02:06:41,639

seven

1026
02:06:51,410 --> 02:06:49,189
okay we concur you guys are in a good

1027
02:06:53,270 --> 02:06:51,420
safety tether config so with that you

1028
02:06:57,649 --> 02:06:53,280
can get Sultana go to release the weight

1029
02:07:01,850 --> 02:06:59,629
you have to go at least you're way

1030
02:07:03,530 --> 02:07:01,860
feather from the Airwalk d-ring extender

1031
02:07:06,890 --> 02:07:03,540
all right copyright reducing my web

1032
02:07:08,750 --> 02:07:06,900
status from the center Fielding extender

1033
02:07:11,330 --> 02:07:08,760
Steve you can continue outboard toward

1034
02:07:13,310 --> 02:07:11,340
S6 reminder to give us a gauntlet call

1035
02:07:14,810 --> 02:07:13,320
prior to crossing the sarge and your

1036
02:07:17,810 --> 02:07:14,820
next step is going to be to drop your

1037
02:07:19,189 --> 02:07:17,820
green hook at uh out on S5 and reminder

1038
02:07:21,229 --> 02:07:19,199

that at the sarge you're going to

1039

02:07:23,450 --> 02:07:21,239

translate zenith

1040

02:07:26,330 --> 02:07:23,460

Sultan uh once you have your waist

1041

02:07:33,310 --> 02:07:28,189

Sultan once you have your waist tether

1042

02:07:33,320 --> 02:07:45,410

Ed up

1043

02:07:45,420 --> 02:07:48,470

okay

1044

02:07:55,250 --> 02:07:51,830

thermal cover closed uh you can now head

1045

02:07:56,629 --> 02:07:55,260

to esp2 for bag snow

1046

02:07:58,850 --> 02:07:56,639

and reminder you're going to translate

1047

02:08:01,850 --> 02:07:58,860

you can either translate on the wagon

1048

02:08:03,470 --> 02:08:01,860

wheel of the airlock across to esp2 or

1049

02:08:11,570 --> 02:08:03,480

you can go direct from the toolboxes

1050

02:08:15,830 --> 02:08:13,490

give me one minute

1051

02:08:18,350 --> 02:08:15,840

all right my goblets are down I am at

1052

02:08:19,850 --> 02:08:18,360

the Sarge

1053

02:08:21,169 --> 02:08:19,860

and reminder because it angles

1054

02:08:24,709 --> 02:08:21,179

everything's parked in you're gonna need

1055

02:08:26,149 --> 02:08:24,719

to go zenith prior to Crossing and when

1056

02:08:28,490 --> 02:08:26,159

you cross you're going to have the

1057

02:08:33,350 --> 02:08:28,500

non-radier side of the iea out your left

1058

02:08:58,250 --> 02:08:37,310

all right my left side radiator

1059

02:09:03,290 --> 02:09:00,709

and Steve is a check once you cross the

1060

02:09:04,669 --> 02:09:03,300

uh stretch you're gonna the first width

1061

02:09:06,530 --> 02:09:04,679

you're gonna see our width two and six

1062

02:09:09,830 --> 02:09:06,540

and handrail 2203 and then you know

1063

02:09:15,050 --> 02:09:11,990

206 I'm on the right path and that's a

1064

02:09:19,070 --> 02:09:17,089

sure thing uh you can just head straight

1065

02:09:21,350 --> 02:09:19,080

out starboard now um you're going to be

1066

02:09:25,189 --> 02:09:21,360

going all the way along that edge until

1067

02:09:26,930 --> 02:09:25,199

you get to the S6 handrail 2003 which is

1068

02:09:29,870 --> 02:09:26,940

going to be the first one on the S6 long

1069

02:09:34,010 --> 02:09:32,270

two zero zero three

1070

02:09:36,589 --> 02:09:34,020

first one that's six and that's where I

1071

02:09:45,709 --> 02:09:36,599

dropped my greenhouse effect

1072

02:09:51,350 --> 02:09:47,870

this view coming from the helmet camera

1073

02:09:52,850 --> 02:09:51,360

of Sultan al-nayadi

1074

02:09:54,830 --> 02:09:52,860

the International Space Station

1075

02:09:56,689 --> 02:09:54,840

currently flying you're going to be

1076
02:09:58,609 --> 02:09:56,699
going to the starboard side just forward

1077
02:10:00,050 --> 02:09:58,619
of that trunnion pin uh the good news

1078
02:10:01,310 --> 02:10:00,060
out there is that there's no NBL

1079
02:10:02,530 --> 02:10:01,320
structure to get in your way so you

1080
02:10:04,370 --> 02:10:02,540
should make that corner nice and easy

1081
02:10:10,990 --> 02:10:04,380
and you're going to be looking for a

1082
02:10:18,669 --> 02:10:14,510
and I did notice that on fields actually

1083
02:10:26,810 --> 02:10:21,890
all right I'm at 2003 stopping to drop

1084
02:10:26,820 --> 02:10:38,450
note the barber pole on the one side

1085
02:10:43,250 --> 02:10:40,669
space station currently flying 258

1086
02:10:44,390 --> 02:10:43,260
statute miles over the South Atlantic

1087
02:10:46,669 --> 02:10:44,400
Ocean

1088
02:10:52,970 --> 02:10:46,679

which we are getting glimpses of in the

1089

02:10:58,669 --> 02:10:56,570

S6 handrail 2009 that'll be with the iea

1090

02:11:00,169 --> 02:10:58,679

off to your right side and a reminder in

1091

02:11:03,290 --> 02:11:00,179

your left hand as you get out there is

1092

02:11:05,089 --> 02:11:03,300

going to cross handrail 2008 and that is

1093

02:11:06,470 --> 02:11:05,099

the one that has wire ties and mli

1094

02:11:08,209 --> 02:11:06,480

secured to it that we want to try to

1095

02:11:26,900 --> 02:11:08,219

minimize loads into

1096

02:11:26,910 --> 02:11:54,430

[Applause]

1097

02:11:58,910 --> 02:11:56,950

[Music]

1098

02:12:04,910 --> 02:11:58,920

suspenders anytime so you're just

1099

02:12:04,920 --> 02:12:09,470

outboard

1100

02:12:20,149 --> 02:12:11,990

in this video coming from Steve Bowen's

1101
02:12:28,490 --> 02:12:22,850
he continues to Stow bags where needed

1102
02:12:32,149 --> 02:12:30,290
and his next main task will be to

1103
02:12:33,890 --> 02:12:32,159
relocate an articulating portable foot

1104
02:13:01,430 --> 02:12:33,900
restraint that will be used later in the

1105
02:13:05,569 --> 02:13:03,290
and Steve that's uh you're passing that

1106
02:13:07,609 --> 02:13:05,579
bcdu mli right now on 2008 and that's

1107
02:13:11,149 --> 02:13:07,619
what we want to try to uh not put loads

1108
02:13:15,470 --> 02:13:14,149
I did I slowed down and make sure I it's

1109
02:13:19,250 --> 02:13:15,480
a profit

1110
02:13:22,250 --> 02:13:19,260
I'm not 6032 in 2009 now so

1111
02:13:24,470 --> 02:13:22,260
I'm at my next work site Kathy yes you

1112
02:13:26,750 --> 02:13:24,480
are you can Stow the Ida cable bag right

1113
02:13:28,609 --> 02:13:26,760

in front of you and yeah there's gonna

1114

02:13:34,990 --> 02:13:28,619

be an integral tether to 2010 on your

1115

02:13:39,229 --> 02:13:37,669

so hit that remote

1116

02:13:41,149 --> 02:13:39,239

and then reminder we are going to have

1117

02:13:43,370 --> 02:13:41,159

another large small adjustable from the

1118

02:14:10,550 --> 02:13:43,380

lid of the bag over to 2032 as well so

1119

02:14:14,209 --> 02:14:12,229

and Sultan it looks like you have a good

1120

02:14:15,470 --> 02:14:14,219

temp still on the bag when you're ready

1121

02:14:17,270 --> 02:14:15,480

you're going to translate back toward

1122

02:14:19,729 --> 02:14:17,280

the airlock the way you came to go up

1123

02:14:21,470 --> 02:14:19,739

the seat of spur and your next stop is

1124

02:14:24,770 --> 02:14:21,480

going to be the Port City cart to

1125

02:14:24,780 --> 02:15:09,410

press coffee 40 cups

1126
02:15:09,420 --> 02:15:29,950
foreign

1127
02:15:35,270 --> 02:15:33,229
we suggested the outboard and then for

1128
02:15:37,310 --> 02:15:35,280
2032 the one that's farthest away from

1129
02:15:39,589 --> 02:15:37,320
you but if you see a better way just let

1130
02:15:39,599 --> 02:15:49,129
all right

1131
02:15:52,970 --> 02:15:50,930
and actually Steve I had that backwards

1132
02:15:54,589 --> 02:15:52,980
on 2010 we suggest the inboard but again

1133
02:15:56,990 --> 02:15:54,599
whatever you need to get it tacked down

1134
02:15:57,000 --> 02:16:11,689
pop it down on the airport

1135
02:16:16,850 --> 02:16:13,850
and Sultan as you get up the seat of

1136
02:16:20,990 --> 02:16:16,860
Spurs you're going to be heading up

1137
02:16:21,000 --> 02:16:44,410
copy

1138
02:16:48,469 --> 02:16:46,910

and as you get up on face one Sultan

1139

02:16:50,030 --> 02:16:48,479

that part Cedar card will be off to your

1140

02:16:55,429 --> 02:16:50,040

right side and a reminder for you as

1141

02:16:55,439 --> 02:17:35,629

I got it

1142

02:17:40,910 --> 02:17:38,270

okay I have

1143

02:17:45,169 --> 02:17:40,920

one of the quarters to 2032 the other

1144

02:17:49,690 --> 02:17:45,179

corners of 2010 and the big hook

1145

02:17:57,410 --> 02:17:53,509

uh back to the top of the map

1146

02:18:02,270 --> 02:18:00,349

and we will take a glove inspection and

1147

02:18:05,150 --> 02:18:02,280

a half check and ensuring your gauntlets

1148

02:18:05,160 --> 02:18:14,709

I thought was foreign

1149

02:18:18,770 --> 02:18:16,790

station and you can translate back

1150

02:18:21,110 --> 02:18:18,780

inboard to the starboard seater cart to

1151

02:18:26,830 --> 02:18:21,120

retrieve an apfr and you will retrieve

1152

02:18:26,840 --> 02:19:02,810

my closet here

1153

02:19:08,030 --> 02:19:05,750

and knife work Sultan and we can head to

1154

02:19:22,129 --> 02:19:08,040

the uh up the cedar spur when you're

1155

02:19:47,870 --> 02:19:24,469

this

1156

02:19:50,349 --> 02:19:47,880

from both of our space Walkers now 53

1157

02:19:53,810 --> 02:19:50,359

minutes into today's spacewalk

1158

02:19:55,910 --> 02:19:53,820

with four which is the top right and uh

1159

02:19:57,889 --> 02:19:55,920

note as you translate that when you get

1160

02:19:59,090 --> 02:19:57,899

there there is two apfr there's one in

1161

02:20:00,230 --> 02:19:59,100

the top right and the bottom right we

1162

02:20:05,510 --> 02:20:00,240

want the one in the top right that has

1163

02:20:05,520 --> 02:20:21,410

all right I understand

1164

02:20:26,630 --> 02:20:23,990

Bowen and all nayadi are heading out to

1165

02:20:28,910 --> 02:20:26,640

relocate an apfr that's an articulating

1166

02:20:31,250 --> 02:20:28,920

portable foot restraint

1167

02:20:33,230 --> 02:20:31,260

it's often used during space walks to

1168

02:20:38,090 --> 02:20:33,240

help astronauts secure themselves in one

1169

02:20:43,370 --> 02:20:40,870

we stay together

1170

02:20:49,250 --> 02:20:43,380

[Music]

1171

02:20:49,260 --> 02:20:51,770

ers

1172

02:20:51,780 --> 02:20:56,450

and translating other empty

1173

02:21:01,790 --> 02:20:58,470

sultan

1174

02:21:05,750 --> 02:21:03,650

and Sultan as you get out to the port

1175

02:21:08,570 --> 02:21:05,760

Cedar cart you're going to be picking up

1176

02:21:11,150 --> 02:21:08,580

the apfr at the bottom left bottom left

1177

02:21:16,630 --> 02:21:11,160

with two and that will also have an

1178

02:21:16,640 --> 02:21:21,050

left two

1179

02:21:21,060 --> 02:21:34,130

bankruptcy

1180

02:21:34,140 --> 02:22:06,250

10 seconds to a Handover

1181

02:22:11,630 --> 02:22:08,990

NASA's Mission Control Houston we are in

1182

02:22:13,010 --> 02:22:11,640

a satellite Handover with the astronauts

1183

02:22:15,469 --> 02:22:13,020

aboard the International Space Station

1184

02:22:17,210 --> 02:22:15,479

as they continue today's spacewalk again

1185

02:22:32,150 --> 02:22:17,220

they are heading out to relocate and

1186

02:22:38,450 --> 02:22:36,290

following relocation of the apfr

1187

02:22:39,710 --> 02:22:38,460

they will begin moving out to Route

1188

02:22:41,950 --> 02:22:39,720

cables

1189

02:22:44,450 --> 02:22:41,960

and modify some multi-layer insulation

1190

02:22:46,070 --> 02:22:44,460

on one of the modification kits

1191

02:22:48,650 --> 02:22:46,080

preparing for installation of future

1192

02:23:04,250 --> 02:22:48,660

solar arrays

1193

02:23:04,260 --> 02:23:09,230

foreign

1194

02:23:09,240 --> 02:23:23,270

copy

1195

02:23:27,170 --> 02:23:25,849

and Sultan we see you at the apfr when

1196

02:23:28,790 --> 02:23:27,180

you have a second we'd like you to

1197

02:23:30,830 --> 02:23:28,800

double check that the pitch setting is

1198

02:23:32,630 --> 02:23:30,840

papa papa and then we want you to not

1199

02:23:38,389 --> 02:23:32,640

change the pitch setting when you

1200

02:23:38,399 --> 02:24:00,730

foreign

1201
02:24:09,710 --> 02:24:03,110
that was an impressive fix you have

1202
02:24:09,720 --> 02:24:16,130
thank you

1203
02:24:22,730 --> 02:24:17,929
all right I am at the square over to

1204
02:24:28,010 --> 02:24:25,849
I feared about it

1205
02:24:30,230 --> 02:24:28,020
okay copy Steve and you're looking for

1206
02:24:32,330 --> 02:24:30,240
the top right with four

1207
02:24:34,670 --> 02:24:32,340
and we are going to have you keep that

1208
02:24:40,790 --> 02:24:34,680
apfr in the width and adjust the pitch

1209
02:24:45,830 --> 02:24:43,370
I was right before

1210
02:24:47,450 --> 02:24:45,840
I guess if it's not well filling the

1211
02:24:49,510 --> 02:24:47,460
whiff

1212
02:24:55,490 --> 02:24:49,520
yep

1213
02:25:06,950 --> 02:24:57,889

and Sultan understand that you see

1214

02:25:06,960 --> 02:25:11,690

copy Sultan uh stand by one

1215

02:25:16,790 --> 02:25:14,090

Steve for yours and uh with four we're

1216

02:25:18,770 --> 02:25:16,800

gonna have you uh leaving the apfr in

1217

02:25:21,110 --> 02:25:18,780

the with adjust the pitch setting to Fox

1218

02:25:23,450 --> 02:25:21,120

Fox and Sultan we were expecting papa

1219

02:25:29,990 --> 02:25:23,460

papa on yours so we're talking about it

1220

02:25:37,790 --> 02:25:32,570

can't fight you do want the sultan to

1221

02:25:43,250 --> 02:25:39,950

and Sultan we would like to have you

1222

02:25:44,690 --> 02:25:43,260

adjust that pitch setting to pop up Papa

1223

02:25:46,490 --> 02:25:44,700

so just the pitch setting and you can

1224

02:26:01,910 --> 02:25:46,500

leave it in the width if you'd like

1225

02:26:07,070 --> 02:26:03,950

we are now one hour into today's

1226
02:26:11,450 --> 02:26:09,170
the astronauts have made their way out

1227
02:26:13,670 --> 02:26:11,460
to the cedar car the crew equipment

1228
02:26:16,429 --> 02:26:13,680
translation Aid and they are both

1229
02:26:19,750 --> 02:26:16,439
working on a separate apfr articulating

1230
02:26:50,630 --> 02:26:22,370
verifying the settings are needed to be

1231
02:26:50,640 --> 02:27:24,469
foreign

1232
02:27:28,309 --> 02:27:26,090
there's a great word Steve as you know

1233
02:27:34,790 --> 02:27:28,319
so you can retrieve that apfr now with

1234
02:27:44,090 --> 02:27:36,530
all right that's going to be in work in

1235
02:27:51,230 --> 02:27:47,210
we could have uh Papa and this will be a

1236
02:27:53,450 --> 02:27:51,240
club and pick up is locked and could be

1237
02:27:54,950 --> 02:27:53,460
okay good word Sultan

1238
02:27:56,690 --> 02:27:54,960

um you are now going to pick up that

1239

02:28:02,210 --> 02:27:56,700

apfr with the Ingress Aid and throw it

1240

02:29:06,830 --> 02:28:03,790

s

1241

02:29:08,030 --> 02:29:06,840

brt big picture uh you're going to be

1242

02:29:10,610 --> 02:29:08,040

pretty synced up now you're going to be

1243

02:29:13,190 --> 02:29:10,620

heading out to S6 uh just know we're

1244

02:29:15,710 --> 02:29:13,200

about five minutes to a sudden to a

1245

02:29:21,290 --> 02:29:15,720

sunset if you want to set your visors

1246

02:29:21,300 --> 02:29:32,510

thank you very much

1247

02:29:37,130 --> 02:29:35,450

again

1248

02:29:39,230 --> 02:29:37,140

the crew members continue with the first

1249

02:29:40,490 --> 02:29:39,240

task of the day which is fixing the

1250

02:29:42,230 --> 02:29:40,500

appropriate settings on these

1251
02:29:44,630 --> 02:29:42,240
articulating portable foot restraints

1252
02:29:55,790 --> 02:29:44,640
they will Stow those on their body

1253
02:29:55,800 --> 02:30:00,550
okay

1254
02:30:04,660 --> 02:30:03,469
the apfr will be used later in the

1255
02:30:08,750 --> 02:30:04,670
spacewalk

1256
02:30:08,760 --> 02:30:16,910
copy

1257
02:30:21,349 --> 02:30:19,190
and just to confirm and I was

1258
02:30:24,770 --> 02:30:21,359
translating on the

1259
02:30:29,570 --> 02:30:24,780
and hands of the because and we use the

1260
02:30:32,929 --> 02:30:31,550
yes good words and we'll also catch them

1261
02:30:34,670 --> 02:30:32,939
at the end of the Eva Steve's actually

1262
02:30:36,230 --> 02:30:34,680
going to be back on this see to cart uh

1263
02:30:37,730 --> 02:30:36,240

to pick up the other apfr and a little

1264

02:31:30,050 --> 02:30:37,740

later but that's always a good check and

1265

02:31:30,060 --> 02:31:37,630

hey if I left the atfr atfr has been my

1266

02:31:37,640 --> 02:31:40,969

goes by

1267

02:31:40,979 --> 02:31:51,650

it's outside are you okay

1268

02:31:55,429 --> 02:31:54,110

I assume I'm going to translate ahead of

1269

02:31:57,410 --> 02:31:55,439

you see right

1270

02:31:59,090 --> 02:31:57,420

I think that's the point on you yes we

1271

02:32:01,550 --> 02:31:59,100

were just talking about that you are

1272

02:32:04,070 --> 02:32:01,560

going to translate ahead of him so

1273

02:32:05,270 --> 02:32:04,080

you're going to continue outboard prior

1274

02:32:06,830 --> 02:32:05,280

to Crossing you're going to cross where

1275

02:32:08,929 --> 02:32:06,840

the anchor hooks are and then a little

1276

02:32:10,550 --> 02:32:08,939

bit outboard of that prior to crossing

1277

02:32:12,830 --> 02:32:10,560

the surge we'll make sure your gauntlets

1278

02:32:18,469 --> 02:32:12,840

are in place and you're going to be

1279

02:32:41,330 --> 02:32:20,750

and figuring to go kind of up face one

1280

02:32:45,050 --> 02:32:43,190

all right keep an eye on myself over

1281

02:32:55,730 --> 02:32:45,060

there as you go by as a result thank you

1282

02:33:00,950 --> 02:32:58,849

now that both crew members have the apfr

1283

02:33:03,410 --> 02:33:00,960

the articulating portable foot restraint

1284

02:33:05,290 --> 02:33:03,420

with them they're heading out to the S6

1285

02:33:08,389 --> 02:33:05,300

truss where they will install those

1286

02:33:10,429 --> 02:33:08,399

apfrs and prepare for the next task of

1287

02:33:12,349 --> 02:33:10,439

routing some cables to prepare for

1288

02:33:15,050 --> 02:33:12,359

future installation of new International

1289

02:33:17,750 --> 02:33:15,060

Space Station rollout solar arrays also

1290

02:34:17,270 --> 02:33:17,760

known as irosas these will be delivered

1291

02:34:17,280 --> 02:34:56,929

um

1292

02:34:56,939 --> 02:35:19,460

foreign

1293

02:35:19,470 --> 02:35:30,410

[Music]

1294

02:35:34,190 --> 02:35:32,090

and for both of you the same translation

1295

02:35:35,809 --> 02:35:34,200

pass as Steve took out the first time so

1296

02:35:38,750 --> 02:35:35,819

as you cross the sarge you're going to

1297

02:35:43,610 --> 02:35:38,760

come Zenith and then cross onto uh

1298

02:35:47,450 --> 02:35:45,230

and you should have the non-raider side

1299

02:35:55,450 --> 02:35:47,460

out your left side and the iea out your

1300

02:35:55,460 --> 02:36:02,630

thank you

1301

02:36:02,640 --> 02:36:11,570

as you can see

1302

02:36:15,410 --> 02:36:14,030

yeah Sultan so before before uh crossing

1303

02:36:17,150 --> 02:36:15,420

the Stars we'll have you ensure your

1304

02:36:18,410 --> 02:36:17,160

gauntlets are in place

1305

02:36:19,730 --> 02:36:18,420

and then you're going to translate

1306

02:36:22,190 --> 02:36:19,740

zenith

1307

02:36:25,190 --> 02:36:22,200

and then when you go across the stretch

1308

02:36:27,050 --> 02:36:25,200

and you get to S4 have that non-radiator

1309

02:36:28,969 --> 02:36:27,060

side out your left side the first thing

1310

02:36:35,270 --> 02:36:28,979

you should see is with two and width 6

1311

02:36:38,870 --> 02:36:36,590

all right if you're ahead of these

1312

02:36:40,130 --> 02:36:38,880

Sultan you're on the right path can you

1313

02:36:44,510 --> 02:36:40,140

cross over

1314

02:36:51,250 --> 02:36:48,230

and I think uh I'm I expect my compass

1315

02:36:58,610 --> 02:36:51,260

right down I took the

1316

02:37:06,830 --> 02:37:02,389

the handrail two one zero three hidden

1317

02:37:14,270 --> 02:37:09,530

okay we copied 2103 then heading

1318

02:37:14,280 --> 02:37:18,620

as you can see when you get out there

1319

02:37:22,670 --> 02:37:20,270

[Music]

1320

02:37:25,190 --> 02:37:22,680

so two so you're going to hook to your

1321

02:37:27,889 --> 02:37:25,200

green hook to 2004 which is one handrail

1322

02:37:30,050 --> 02:37:27,899

outboard of 2003

1323

02:37:31,490 --> 02:37:30,060

and then two handrails outboard of that

1324

02:37:33,770 --> 02:37:31,500

is where you're going to actually cross

1325

02:37:35,270 --> 02:37:33,780

on the inboard side of the bcdu that's

1326
02:37:41,450 --> 02:37:35,280
open so the first thing you want to do

1327
02:37:41,460 --> 02:37:51,530
nice coffee

1328
02:37:55,670 --> 02:37:53,210
this view from the helmet camera of

1329
02:37:57,770 --> 02:37:55,680
Sultan onayati United Arab Emirates

1330
02:37:59,990 --> 02:37:57,780
astronaut

1331
02:38:03,469 --> 02:38:00,000
on the first spacewalk for an emirati

1332
02:38:06,170 --> 02:38:04,610
lighting looks a little different

1333
02:38:08,630 --> 02:38:06,180
outside the International Space Station

1334
02:38:10,790 --> 02:38:08,640
right now as the station itself is in an

1335
02:38:14,150 --> 02:38:10,800
orbital night time

1336
02:38:15,830 --> 02:38:14,160
again we'll see several changes in uh

1337
02:38:19,790 --> 02:38:15,840
we'll see several sunrises and sunsets

1338
02:38:33,290 --> 02:38:22,550

as it currently flies 265 statute miles

1339

02:38:33,300 --> 02:38:36,770

before

1340

02:38:40,130 --> 02:38:38,570

okay good work Sultan and well your

1341

02:38:42,230 --> 02:38:40,140

pause here just a reminder actually for

1342

02:38:43,670 --> 02:38:42,240

both of you for the helmet lights

1343

02:38:45,590 --> 02:38:43,680

um if you push the button multiple times

1344

02:38:47,090 --> 02:38:45,600

you might get one light two light and

1345

02:38:48,590 --> 02:38:47,100

then they'll go off so if the light

1346

02:38:55,450 --> 02:38:48,600

seems dim you may not have both lights

1347

02:39:01,130 --> 02:38:57,889

and Sultan you're going to continue out

1348

02:39:02,450 --> 02:39:01,140

along S6 when you see whiff 9 you're

1349

02:39:05,030 --> 02:39:02,460

going to take a right

1350

02:39:06,710 --> 02:39:05,040

and you're going to see handrail 2024

1351

02:39:08,630 --> 02:39:06,720

and that's going to be just on the

1352

02:39:19,630 --> 02:39:08,640

inboard side of the bcdu so you're just

1353

02:39:23,330 --> 02:39:21,650

and Steve you're just heading out to

1354

02:39:26,330 --> 02:39:23,340

where you were before to drop your green

1355

02:39:27,969 --> 02:39:26,340

hook on 2003 and then head straight all

1356

02:39:30,349 --> 02:39:27,979

the way outboard

1357

02:39:31,490 --> 02:39:30,359

and then head straight all the way

1358

02:39:38,890 --> 02:39:31,500

outboard

1359

02:39:38,900 --> 02:39:52,370

[Music]

1360

02:39:56,929 --> 02:39:54,530

and that short hand rail there Sultan is

1361

02:39:59,030 --> 02:39:56,939

2025 and then it'll be a kind of a reach

1362

02:40:00,710 --> 02:39:59,040

around to the other side and then you

1363

02:40:02,809 --> 02:40:00,720

can go outboard

1364

02:40:10,670 --> 02:40:02,819

and you're going to be looking for your

1365

02:40:10,680 --> 02:40:33,969

looking great

1366

02:40:39,170 --> 02:40:36,710

and Sultan one more body orientation

1367

02:40:40,910 --> 02:40:39,180

reminder when you get out to S6 and you

1368

02:40:43,370 --> 02:40:40,920

find a width 15 we'd like you to

1369

02:40:45,650 --> 02:40:43,380

position your body over the iea and

1370

02:40:48,410 --> 02:40:45,660

ensure that your safety tether is on the

1371

02:40:50,990 --> 02:40:48,420

iea side of that whiff and there's two

1372

02:40:52,429 --> 02:40:51,000

widths there with 15 is the one that

1373

02:40:58,190 --> 02:40:52,439

kind of points in the direction of the

1374

02:40:58,200 --> 02:41:03,530

let's copy

1375

02:41:03,540 --> 02:41:12,950

recipe

1376

02:41:12,960 --> 02:41:32,230

foreign

1377

02:41:36,590 --> 02:41:34,670

because that apfr was in a different

1378

02:41:37,790 --> 02:41:36,600

configuration than we expected when you

1379

02:41:40,010 --> 02:41:37,800

picked it up we're going to have you

1380

02:41:41,270 --> 02:41:40,020

verify the settings and uh so when

1381

02:41:42,050 --> 02:41:41,280

you're ready for the settings let me

1382

02:41:42,710 --> 02:41:42,060

know

1383

02:41:44,030 --> 02:41:42,720

um

1384

02:42:05,270 --> 02:41:44,040

you are going to be installing at a

1385

02:42:14,389 --> 02:42:08,809

all right screen hook on 2003

1386

02:42:17,870 --> 02:42:16,429

all right good word Steve I understand

1387

02:42:20,030 --> 02:42:17,880

you got your green hooked Down You're

1388

02:42:21,770 --> 02:42:20,040

Gonna head all the way outboard so you

1389

02:42:24,349 --> 02:42:21,780

can't go anymore and take a right after

1390

02:42:29,950 --> 02:42:24,359

the iea and you're heading around to S6

1391

02:42:29,960 --> 02:42:50,150

on my way

1392

02:42:50,160 --> 02:42:55,610

all I see call apparently

1393

02:42:59,929 --> 02:42:58,250

ready for the settings

1394

02:43:10,309 --> 02:42:59,939

okay your full settings are going to be

1395

02:43:10,319 --> 02:43:18,050

all right

1396

02:43:18,060 --> 02:44:27,469

oh

1397

02:44:37,429 --> 02:44:35,630

in a brief loss of signal with the

1398

02:44:39,710 --> 02:44:37,439

International Community

1399

02:44:41,690 --> 02:44:39,720

with the International Space Station as

1400

02:44:43,849 --> 02:44:41,700

our space Walkers continue today's

1401
02:44:46,070 --> 02:44:43,859
spacewalk now one hour and 18 minutes

1402
02:44:52,849 --> 02:44:46,080
since they switched their suits to

1403
02:44:56,870 --> 02:44:54,950
back with you after a Handover uh

1404
02:44:59,210 --> 02:44:56,880
associate called it I missed it we've

1405
02:45:01,309 --> 02:44:59,220
got Sultan working 12 Papa pop on Fox 8

1406
02:45:04,010 --> 02:45:01,319
and with 15 and Steve you're heading to

1407
02:45:06,889 --> 02:45:04,020
with 31.

1408
02:45:45,110 --> 02:45:06,899
I am heading to Rift 31.

1409
02:45:51,830 --> 02:45:47,809
we got a copy the good pull twist test

1410
02:45:51,840 --> 02:46:00,950
and black sorry yes

1411
02:46:11,330 --> 02:46:02,929
good check thank you and can you confirm

1412
02:46:15,710 --> 02:46:13,910
Fox 8

1413
02:46:16,849 --> 02:46:15,720

. copy a good work uh you can hang out

1414

02:46:19,309 --> 02:46:16,859

and take a couple pictures while Steve

1415

02:46:25,090 --> 02:46:19,319

gets his apfr installed Steve you've got

1416

02:47:04,730 --> 02:46:27,950

Fox 2

1417

02:47:09,410 --> 02:47:07,070

and Sultan as you are taking pictures I

1418

02:47:10,910 --> 02:47:09,420

will also take a glove inspection half

1419

02:47:39,730 --> 02:47:10,920

check and just double checking your

1420

02:47:46,790 --> 02:47:42,170

and again for Steve your settings are

1421

02:47:46,800 --> 02:48:29,210

foreign

1422

02:48:34,910 --> 02:48:32,510

good word Sultan uh and after uh Steve

1423

02:48:36,650 --> 02:48:34,920

has apfrn we'll be heading to the cable

1424

02:48:38,270 --> 02:48:36,660

routing and the mod kit and just a

1425

02:48:43,370 --> 02:48:38,280

reminder you do have cut Pages if you

1426

02:48:43,380 --> 02:48:49,910

let's copy that

1427

02:48:53,450 --> 02:48:51,650

as the astronauts install their

1428

02:48:56,630 --> 02:48:53,460

articulating portable foot restraints

1429

02:48:58,429 --> 02:48:56,640

they will then begin moving on to the

1430

02:49:00,370 --> 02:48:58,439

next task one of the major tasks today

1431

02:49:02,809 --> 02:49:00,380

which is routing cables in preparation

1432

02:49:08,389 --> 02:49:02,819

for future installation of International

1433

02:49:08,399 --> 02:49:33,290

let's see

1434

02:49:38,150 --> 02:49:35,750

in this view from

1435

02:49:42,130 --> 02:49:38,160

this view from Sultan anayari's comment

1436

02:49:47,630 --> 02:49:44,809

on the left on his left glove you can

1437

02:49:52,070 --> 02:49:47,640

see a small what looks like a notebook

1438

02:49:55,730 --> 02:49:52,080

that includes some reference information

1439

02:50:30,290 --> 02:49:56,830

Fox

1440

02:50:30,300 --> 02:50:44,349

foreign

1441

02:50:49,730 --> 02:50:46,790

verify the pitch knob is locked and can

1442

02:50:49,740 --> 02:51:28,730

all right hello it's on the other side

1443

02:51:32,990 --> 02:51:30,590

is locked

1444

02:51:35,389 --> 02:51:33,000

and computer crust

1445

02:51:36,830 --> 02:51:35,399

copy good word Steve that completes the

1446

02:51:43,849 --> 02:51:36,840

installation and so we'll take a glove

1447

02:51:43,859 --> 02:51:47,150

thank you

1448

02:51:47,160 --> 02:52:12,530

coming

1449

02:52:12,540 --> 02:52:18,889

at this dry glove look good

1450

02:52:23,809 --> 02:52:20,809

happy good glove Steve so so we could

1451
02:52:25,790 --> 02:52:23,819
now for both of you move over to the 1B

1452
02:52:27,590 --> 02:52:25,800
cable routing Steve you're going to go

1453
02:52:31,309 --> 02:52:27,600
directly to the left side

1454
02:52:34,130 --> 02:52:31,319
of the mod kit Sultan as you go outboard

1455
02:52:37,309 --> 02:52:34,140
past T this apr you're going to do a

1456
02:52:40,630 --> 02:52:37,319
fair lead on the short handrail on the

1457
02:52:43,670 --> 02:52:40,640
radiator side of the iea it's handrail

1458
02:52:48,290 --> 02:52:43,680
2061 and again it's it'll be off to your

1459
02:52:48,300 --> 02:52:52,550
framework

1460
02:52:56,090 --> 02:52:54,349
for both of you to go out there a couple

1461
02:52:57,769 --> 02:52:56,100
reminders about the mod kit we don't

1462
02:52:59,990 --> 02:52:57,779
want to translate simultaneously on the

1463
02:53:02,389 --> 02:53:00,000

mod kit we want to keep translation

1464

02:53:04,910 --> 02:53:02,399

rates lower than three seconds per foot

1465

02:53:07,730 --> 02:53:04,920

and then avoid cyclic loading into the

1466

02:53:07,740 --> 02:53:11,389

ah

1467

02:53:11,399 --> 02:53:20,769

coffee coconut

1468

02:53:20,779 --> 02:53:25,510

crew about 13 minutes

1469

02:53:25,520 --> 02:53:58,210

very well very good

1470

02:54:02,090 --> 02:54:00,530

and for both of you for your awareness

1471

02:54:05,929 --> 02:54:02,100

you got a happy team down here you are

1472

02:54:14,809 --> 02:54:07,730

oh it's good to know thank you great

1473

02:54:18,830 --> 02:54:16,730

I'm trying to track my

1474

02:54:24,650 --> 02:54:18,840

others

1475

02:54:28,429 --> 02:54:26,870

um she is an experience of today's

1476

02:54:30,889 --> 02:54:28,439

anchor work

1477

02:54:40,550 --> 02:54:30,899

I don't see a rank Rock obviously but

1478

02:54:45,309 --> 02:54:43,849

and I think it's behind me oh sorry you

1479

02:54:49,790 --> 02:54:45,319

mean

1480

02:54:49,800 --> 02:54:59,230

okay

1481

02:55:09,530 --> 02:55:01,809

what are you doing

1482

02:55:13,730 --> 02:55:12,110

yes then continue continue your feet

1483

02:55:14,530 --> 02:55:13,740

down bring your feet down

1484

02:55:23,710 --> 02:55:14,540

no

1485

02:55:28,250 --> 02:55:25,910

that your feet

1486

02:55:30,950 --> 02:55:28,260

okay now bring them down

1487

02:55:35,090 --> 02:55:30,960

and then who uh

1488

02:55:35,100 --> 02:55:42,670

yes

1489

02:55:47,450 --> 02:55:44,830

thank you

1490

02:55:50,570 --> 02:55:47,460

I have it yes

1491

02:55:52,130 --> 02:55:50,580

I think it's still the 100 plus no it's

1492

02:55:58,910 --> 02:55:52,140

right here

1493

02:56:07,610 --> 02:56:02,210

how am I translating uh in both of that

1494

02:56:07,620 --> 02:56:15,230

oh

1495

02:56:15,240 --> 02:56:21,290

checking

1496

02:56:27,590 --> 02:56:23,929

and Sultan you want to stay on the iea

1497

02:56:29,450 --> 02:56:27,600

side of Steve's apfr and then just pass

1498

02:56:31,309 --> 02:56:29,460

the apfr is we're going to kind of drop

1499

02:56:32,450 --> 02:56:31,319

and look down on the radiator side and

1500

02:56:36,290 --> 02:56:32,460

that's where you'll see the shorthand

1501
02:56:38,450 --> 02:56:36,300
rail 21 or 2061 and it should be up and

1502
02:56:42,170 --> 02:56:38,460
down so kind of perpendicular to the

1503
02:56:47,750 --> 02:56:44,750
thank you and I was just checking to

1504
02:56:50,809 --> 02:56:47,760
avoid uh some cables and the fpfr

1505
02:56:55,429 --> 02:56:52,730
Kathy and Steve as you get out there

1506
02:56:58,250 --> 02:56:55,439
your first location Target is going to

1507
02:57:01,010 --> 02:56:58,260
be the left lower threat and the cable

1508
02:57:06,429 --> 02:57:04,550
best lower strut valuable routing

1509
02:57:09,290 --> 02:57:06,439
over there

1510
02:57:15,290 --> 02:57:09,300
and if you see an all-white cable then

1511
02:57:20,330 --> 02:57:17,510
this is all white cable

1512
02:57:22,790 --> 02:57:20,340
close to the center

1513
02:57:26,330 --> 02:57:22,800

and then uh you can actually connect it

1514

02:57:30,469 --> 02:57:28,670

Kathy that is your bundle so you're

1515

02:57:33,469 --> 02:57:30,479

going to retrieve and route that left

1516

02:57:35,630 --> 02:57:33,479

irosa Cable Bundle

1517

02:57:39,230 --> 02:57:35,640

first wire tying it to the left mid

1518

02:57:41,210 --> 02:57:39,240

strut handrail with a pre-stage wire tie

1519

02:57:42,830 --> 02:57:41,220

and for both of you on these cables I

1520

02:57:44,870 --> 02:57:42,840

just want to draw your attention to the

1521

02:57:46,370 --> 02:57:44,880

wing tabs where the extensions jump or

1522

02:57:47,750 --> 02:57:46,380

the cables are connected to themselves

1523

02:57:49,130 --> 02:57:47,760

and we want to make sure that when we

1524

02:57:52,070 --> 02:57:49,140

finish that they stay connected to

1525

02:58:02,030 --> 02:57:53,510

percent

1526
02:58:06,290 --> 02:58:04,130
this is Mission Control Houston coming

1527
02:58:08,690 --> 02:58:06,300
up on one hour and 32 minutes into

1528
02:58:10,429 --> 02:58:08,700
today's space walk and Sultan the idea

1529
02:58:12,410 --> 02:58:10,439
with that fairlead is just to keep the

1530
02:58:14,389 --> 02:58:12,420
tether off to the right side if you see

1531
02:58:16,969 --> 02:58:14,399
a better place to spare lead that tether

1532
02:58:18,889 --> 02:58:16,979
you can we think that 2061 is a good

1533
02:58:34,190 --> 02:58:18,899
spot but if it's hard to get to then you

1534
02:58:38,450 --> 02:58:36,530
both crew members have moved to the S6

1535
02:58:41,210 --> 02:58:38,460
or starboard 6 portion of the

1536
02:58:42,710 --> 02:58:41,220
International Space Station

1537
02:58:44,809 --> 02:58:42,720
they're going to be starting on the

1538
02:58:46,969 --> 02:58:44,819

first major task of today's space walk

1539

02:58:48,710 --> 02:58:46,979

which is to Route these cables to

1540

02:59:17,030 --> 02:58:48,720

prepare for future installation of solar

1541

02:59:17,040 --> 03:00:05,040

foreign

1542

03:00:05,050 --> 03:00:10,670

[Music]

1543

03:00:18,230 --> 03:00:13,910

come on another local and then yeah

1544

03:00:23,710 --> 03:00:22,220

okay then this one okay that was clearer

1545

03:00:26,990 --> 03:00:23,720

[Music]

1546

03:00:30,410 --> 03:00:27,000

station and the sector is also

1547

03:00:33,410 --> 03:00:30,420

uh catching that uh

1548

03:00:36,349 --> 03:00:33,420

release it and

1549

03:00:41,889 --> 03:00:36,359

bring it on the right

1550

03:00:41,899 --> 03:00:58,370

now yes you are thank you

1551
03:00:58,380 --> 03:01:09,889
five cables

1552
03:01:13,969 --> 03:01:11,389
and Sultan we see you get to the work

1553
03:01:16,070 --> 03:01:13,979
side as well and just note for your guys

1554
03:01:17,750 --> 03:01:16,080
awareness we have Sultan's helmet cam we

1555
03:01:20,150 --> 03:01:17,760
don't have Steve's at the moment

1556
03:01:21,889 --> 03:01:20,160
um so Sultan if that is the red Barber

1557
03:01:23,090 --> 03:01:21,899
pulled cables then you have the right

1558
03:01:26,330 --> 03:01:23,100
ones

1559
03:01:28,550 --> 03:01:26,340
and your first step is to wire tie those

1560
03:01:37,190 --> 03:01:28,560
to the right mid strut handrail with a

1561
03:01:42,590 --> 03:01:39,290
surprised I see the right cable and I

1562
03:01:52,429 --> 03:01:46,070
I replace one Bravo with a

1563
03:01:56,690 --> 03:01:55,429

and we have both cameras back and so Tom

1564

03:02:31,670 --> 03:01:56,700

that's those are good words that's the

1565

03:02:35,510 --> 03:02:33,349

and just a reminder as you're routing

1566

03:02:37,490 --> 03:02:35,520

these uh the wire ties will go to the

1567

03:02:39,230 --> 03:02:37,500

mid-stret handrails that are pre-staged

1568

03:02:41,030 --> 03:02:39,240

and then all of the slack will be back

1569

03:02:44,630 --> 03:02:41,040

toward the mass canister on the long

1570

03:02:44,640 --> 03:03:30,710

look at that coffee

1571

03:03:34,969 --> 03:03:33,590

in this view from Steve Bowen's helmet

1572

03:03:37,790 --> 03:03:34,979

camera in the background you can see

1573

03:03:40,190 --> 03:03:37,800

Sultan alnayadi both astronauts now at

1574

03:03:42,830 --> 03:03:40,200

the S6 truss working to Route cables

1575

03:03:44,630 --> 03:03:42,840

that will be used upon installation of

1576

03:03:46,790 --> 03:03:44,640

future irosis those are international

1577

03:03:48,889 --> 03:03:46,800

rollout International Space Station roll

1578

03:03:50,510 --> 03:03:48,899

out solar arrays

1579

03:03:52,190 --> 03:03:50,520

the modification kits that they're

1580

03:04:04,550 --> 03:03:52,200

working on were installed on a previous

1581

03:04:04,560 --> 03:04:07,670

all right

1582

03:04:07,680 --> 03:04:13,190

three turns on the mid

1583

03:04:13,200 --> 03:04:16,910

to the app

1584

03:04:35,150 --> 03:04:19,309

we copy the wires tie on the midstret

1585

03:04:51,769 --> 03:04:36,410

the

1586

03:04:53,389 --> 03:04:51,779

handrail and you two are attending slack

1587

03:04:58,309 --> 03:04:53,399

outboard to the mass canister long

1588

03:04:58,319 --> 03:05:40,730

all right all wire ties all the way out

1589

03:05:40,740 --> 03:06:10,990

foreign

1590

03:06:14,929 --> 03:06:13,370

T's helmet cameras you can get a glimpse

1591

03:06:19,910 --> 03:06:14,939

at that mirror that they wear on their

1592

03:06:25,070 --> 03:06:22,849

the uh panel on the international or on

1593

03:06:26,690 --> 03:06:25,080

the astronauts spacesuit it's on the

1594

03:06:29,090 --> 03:06:26,700

front of their spacesuit and all of the

1595

03:06:30,950 --> 03:06:29,100

dials

1596

03:06:32,630 --> 03:06:30,960

the versus uh

1597

03:06:37,130 --> 03:06:32,640

you'll use something from

1598

03:06:45,769 --> 03:06:39,590

and Sultan you could use the long wire

1599

03:06:51,710 --> 03:06:48,230

thanks

1600

03:07:00,290 --> 03:06:51,720

that must return

1601
03:07:05,389 --> 03:07:02,510
and as you check those down uh just one

1602
03:07:08,510 --> 03:07:05,399
final check for you both to ensure that

1603
03:07:10,130 --> 03:07:08,520
the uh no Wing tabs were knocked in the

1604
03:07:14,990 --> 03:07:10,140
the cables are still connected to

1605
03:07:19,670 --> 03:07:17,510
same on the right side as well and I

1606
03:07:20,929 --> 03:07:19,680
have three wire uh three Clips on the

1607
03:07:23,990 --> 03:07:20,939
wires High

1608
03:07:26,929 --> 03:07:24,000
the long handrail

1609
03:07:28,610 --> 03:07:26,939
okay copy good work uh so the next step

1610
03:07:31,070 --> 03:07:28,620
for both of you is to go to your

1611
03:07:33,110 --> 03:07:31,080
respective upper strut so save on the

1612
03:07:34,849 --> 03:07:33,120
left upper strut and you're going to be

1613
03:07:36,769 --> 03:07:34,859

right toward the center pad so just up

1614

03:07:39,349 --> 03:07:36,779

from where you are and Sultan to the

1615

03:07:47,690 --> 03:07:39,359

right upper strut to the mli Gap near

1616

03:07:47,700 --> 03:07:53,690

res

1617

03:07:57,889 --> 03:07:55,490

and good call Sultan keeping people

1618

03:08:01,190 --> 03:07:57,899

happy down here and just a reminder you

1619

03:08:05,450 --> 03:08:01,200

do have photos of this area on your cuff

1620

03:08:09,170 --> 03:08:07,429

all right

1621

03:08:16,370 --> 03:08:09,180

so I thought I think I'm in a good

1622

03:08:20,269 --> 03:08:18,530

in the background of this view from

1623

03:08:22,550 --> 03:08:20,279

Steve Bowen's helmet camera you can see

1624

03:08:24,590 --> 03:08:22,560

the curvature of the earth as we prepare

1625

03:08:26,330 --> 03:08:24,600

for an orbital sunrise on the

1626

03:08:27,950 --> 03:08:26,340

International Space Station all right

1627

03:08:29,990 --> 03:08:27,960

Steve you're going to be closing the mli

1628

03:08:32,990 --> 03:08:30,000

Gap that's near the center pad you can

1629

03:08:35,570 --> 03:08:33,000

use integral mli wire ties or wire ties

1630

03:08:37,790 --> 03:08:35,580

from your brt as needed

1631

03:08:39,889 --> 03:08:37,800

and if needed ensure the flat side of

1632

03:08:42,410 --> 03:08:39,899

the mli wraps underneath the non-flop

1633

03:08:44,150 --> 03:08:42,420

side before securing with the integrals

1634

03:08:48,950 --> 03:08:44,160

and we want to just ensure that there's

1635

03:08:48,960 --> 03:08:53,210

they understand

1636

03:08:56,330 --> 03:08:54,530

your work set you will see a beautiful

1637

03:08:59,630 --> 03:08:56,340

sunrise about to happen if you need to

1638

03:09:06,830 --> 03:08:59,640

adjust visors accordingly I do

1639

03:09:11,389 --> 03:09:09,469

that Sunrise coming one hour and 43

1640

03:09:13,010 --> 03:09:11,399

minutes into today's spacewalk as the

1641

03:09:39,429 --> 03:09:13,020

station is flying over the North Pacific

1642

03:09:39,439 --> 03:09:46,330

I think

1643

03:09:56,389 --> 03:09:49,070

that with the right mixed Trot two

1644

03:10:00,830 --> 03:09:58,429

and Sultan uh Sagan you said you're at

1645

03:10:04,429 --> 03:10:00,840

the midstret

1646

03:10:05,929 --> 03:10:04,439

yeah the upper source is the office for

1647

03:10:07,790 --> 03:10:05,939

Steve now I don't wanna

1648

03:10:09,590 --> 03:10:07,800

go there

1649

03:10:12,170 --> 03:10:09,600

saying I want to start with the

1650

03:10:13,550 --> 03:10:12,180

rightness for us to the bottom brackets

1651
03:10:15,290 --> 03:10:13,560
station

1652
03:10:18,170 --> 03:10:15,300
so we're not anticipated at the right

1653
03:10:20,090 --> 03:10:18,180
mid strut on this side uh needs to be

1654
03:10:21,710 --> 03:10:20,100
looked at but you can on the upper strut

1655
03:10:23,269 --> 03:10:21,720
on the other side near the mounting

1656
03:10:25,309 --> 03:10:23,279
bracket

1657
03:10:27,889 --> 03:10:25,319
um you can go toward where the M14 bolts

1658
03:10:30,530 --> 03:10:27,899
are so it's just on the left side of the

1659
03:10:33,170 --> 03:10:30,540
upper Bolt so if you

1660
03:10:39,080 --> 03:10:33,180
pull the square mli with the two bolt

1661
03:10:45,230 --> 03:10:40,910
[Music]

1662
03:10:49,370 --> 03:10:47,809
I see no metal solar

1663
03:10:50,870 --> 03:10:49,380

and Steve we're taking a look at that

1664

03:10:52,730 --> 03:10:50,880

right now we'll also taking your call

1665

03:10:53,870 --> 03:10:52,740

the right upper strut is kind of right

1666

03:10:57,950 --> 03:10:53,880

in front of you if you're in a good

1667

03:10:57,960 --> 03:11:30,110

I have to get that one too

1668

03:11:34,550 --> 03:11:32,630

right now both astronauts are modifying

1669

03:11:36,230 --> 03:11:34,560

some mli multi-layer installation

1670

03:11:47,990 --> 03:11:36,240

insulation

1671

03:11:51,469 --> 03:11:50,150

this View and Steve Bowen's helmet

1672

03:11:54,349 --> 03:11:51,479

camera and to the right of your screen

1673

03:12:24,230 --> 03:11:54,359

you can see emirati astronaut Sultana

1674

03:12:24,240 --> 03:12:29,950

foreign

1675

03:12:35,450 --> 03:12:32,929

we're talking about the mli down here so

1676
03:12:37,490 --> 03:12:35,460
on that mid strut we expected that the

1677
03:12:38,990 --> 03:12:37,500
mli to be out of config at those two

1678
03:12:40,190 --> 03:12:39,000
bolts that are right in front of you it

1679
03:12:42,110 --> 03:12:40,200
actually looks like they're pretty good

1680
03:12:44,269 --> 03:12:42,120
but right by your right hand it looks

1681
03:12:45,830 --> 03:12:44,279
like there's an mli flap sticking up on

1682
03:12:47,750 --> 03:12:45,840
that strut so we're just wondering if

1683
03:12:50,330 --> 03:12:47,760
you could maybe adjust those wire ties

1684
03:12:53,870 --> 03:12:50,340
and get that flap uh more securely down

1685
03:12:57,910 --> 03:12:56,360
uh

1686
03:13:02,870 --> 03:12:57,920
[Music]

1687
03:13:05,450 --> 03:13:02,880
two balls and in single wide all right

1688
03:13:07,610 --> 03:13:05,460

is secured under them

1689

03:13:09,710 --> 03:13:07,620

saying it is a flat

1690

03:13:11,090 --> 03:13:09,720

my right hand side that you need to be

1691

03:13:13,130 --> 03:13:11,100

secure

1692

03:13:15,469 --> 03:13:13,140

so now it's off to kind of your left but

1693

03:13:19,130 --> 03:13:15,479

uh wherever you see a flap sticking up

1694

03:13:23,990 --> 03:13:21,550

nice to see you

1695

03:13:26,809 --> 03:13:24,000

and uh how does that look on the other

1696

03:13:26,819 --> 03:13:33,910

a little bit more

1697

03:13:38,330 --> 03:13:36,590

and Steve those look uh those look

1698

03:13:40,490 --> 03:13:38,340

pretty good

1699

03:13:41,990 --> 03:13:40,500

if you can just kind of back up a little

1700

03:13:43,130 --> 03:13:42,000

bit and give us a good heck of skin and

1701
03:13:44,889 --> 03:13:43,140
then we'll move on to the left mid

1702
03:13:58,550 --> 03:13:44,899
stretch

1703
03:13:58,560 --> 03:14:04,130
[Music]

1704
03:14:11,929 --> 03:14:05,840
that looks

1705
03:14:11,939 --> 03:14:15,790
foreign

1706
03:14:20,630 --> 03:14:18,889
we're good with the MLA on the upper

1707
03:14:22,730 --> 03:14:20,640
struts nice work so you can move on to

1708
03:14:24,710 --> 03:14:22,740
the left mid strut we expect the there

1709
03:14:26,450 --> 03:14:24,720
was an mli gap between the collar bolts

1710
03:14:28,670 --> 03:14:26,460
and the mounting bracket but similar

1711
03:14:31,250 --> 03:14:28,680
words to what I gave Sultan uh if you

1712
03:14:33,290 --> 03:14:31,260
see other mli that looks out of config

1713
03:14:34,429 --> 03:14:33,300

we will we would love it if you could

1714

03:14:36,530 --> 03:14:34,439

snug it up a little bit but we're

1715

03:14:43,490 --> 03:14:36,540

expecting the left mid strut between the

1716

03:14:43,500 --> 03:15:31,389

and I will take a look

1717

03:15:35,809 --> 03:15:34,250

and Sultan that's uh I see you kind of

1718

03:15:37,370 --> 03:15:35,819

working the collar bolts on that strut

1719

03:15:39,110 --> 03:15:37,380

uh that is that's definitely a little

1720

03:15:40,610 --> 03:15:39,120

bit out of config especially on the mass

1721

03:15:42,769 --> 03:15:40,620

canister side

1722

03:15:44,030 --> 03:15:42,779

uh so we'll definitely take a good cinch

1723

03:15:45,530 --> 03:15:44,040

up on that one

1724

03:15:47,690 --> 03:15:45,540

and for both of you if it's possible

1725

03:15:52,429 --> 03:15:47,700

after we fix the mli to not translate on

1726

03:15:52,439 --> 03:16:18,710

yeah I'm trying to work with that

1727

03:16:18,720 --> 03:16:21,230

oh

1728

03:16:28,570 --> 03:16:23,389

and on this uh

1729

03:16:31,730 --> 03:16:28,580

structural shots I see some exposed

1730

03:16:35,150 --> 03:16:31,740

and I'm not sure about the

1731

03:16:37,429 --> 03:16:35,160

image strut middle area there was the

1732

03:16:40,010 --> 03:16:37,439

one you pointed just now

1733

03:16:43,670 --> 03:16:40,020

to me from this side is covered

1734

03:16:45,950 --> 03:16:43,680

they have a view on HD from this side

1735

03:16:49,070 --> 03:16:45,960

um there's a gap on this side okay you

1736

03:16:50,809 --> 03:16:49,080

have to come inside to look at that

1737

03:16:52,610 --> 03:16:50,819

I'm fine luck by the way since you're

1738

03:16:56,389 --> 03:16:52,620

looking for us at me

1739

03:17:01,130 --> 03:16:57,349

um

1740

03:17:32,210 --> 03:17:01,140

bad point two wire size

1741

03:17:32,220 --> 03:18:04,330

I think

1742

03:18:04,340 --> 03:18:10,389

thank you

1743

03:18:10,399 --> 03:18:24,530

I still can't see it hold on

1744

03:18:30,230 --> 03:18:26,630

this is Mission Control Houston one hour

1745

03:18:33,170 --> 03:18:30,240

52 minutes into today's space walk

1746

03:18:35,269 --> 03:18:33,180

the fourth spacewalk of the Year eighth

1747

03:18:38,870 --> 03:18:35,279

for Steve Bowen and the first for sultan

1748

03:18:43,130 --> 03:18:41,330

we are in a satellite Handover with the

1749

03:18:48,110 --> 03:18:43,140

International Space Station expect to

1750

03:18:55,969 --> 03:18:50,570

the astronauts are now working on

1751

03:19:01,849 --> 03:18:57,710

they've completed their cable routing

1752

03:19:04,849 --> 03:19:01,859

portion of this specific mod kit work

1753

03:19:06,950 --> 03:19:04,859

they are now working on the mli or the

1754

03:19:09,410 --> 03:19:06,960

multi-layer insulation

1755

03:19:28,969 --> 03:19:09,420

ensuring it's properly placed to protect

1756

03:19:28,979 --> 03:19:33,170

good

1757

03:19:39,230 --> 03:19:36,110

when I open them after the astronauts

1758

03:19:42,469 --> 03:19:39,240

complete the work on the 1B mli they

1759

03:19:44,809 --> 03:19:42,479

will move over to the 1A mod kit

1760

03:19:47,150 --> 03:19:44,819

and continue the same type of

1761

03:19:48,530 --> 03:19:47,160

multi-layer insulation work

1762

03:19:50,630 --> 03:19:48,540

there won't be any cable routing

1763

03:19:52,670 --> 03:19:50,640

necessary at that mod kit

1764

03:19:55,190 --> 03:19:52,680

but at the completion of this work the

1765

03:19:56,510 --> 03:19:55,200

astronauts will have prepared these

1766

03:19:58,849 --> 03:19:56,520

areas

1767

03:20:03,590 --> 03:19:58,859

for future solar array installation

1768

03:20:07,190 --> 03:20:05,210

it was discovered

1769

03:20:13,790 --> 03:20:07,200

or there are still between these wire

1770

03:20:19,309 --> 03:20:16,309

I can give you I got one I'll get it

1771

03:20:23,030 --> 03:20:19,319

more take a look at yours I use them for

1772

03:20:27,950 --> 03:20:25,130

and Sultan we're back with you after the

1773

03:20:29,630 --> 03:20:27,960

Handover in Sultan we were we appreciate

1774

03:20:32,330 --> 03:20:29,640

the good thorough inspection on the

1775

03:20:34,490 --> 03:20:32,340

right mid strut so Steve as you continue

1776
03:20:36,170 --> 03:20:34,500
to work that left mid stretch Sultan you

1777
03:20:40,250 --> 03:20:36,180
can move to the mounting bracket to

1778
03:20:40,260 --> 03:20:45,230
first

1779
03:20:50,210 --> 03:20:48,230
I have one on my side right

1780
03:20:51,710 --> 03:20:50,220
there is one on your side there's kind

1781
03:20:56,510 --> 03:20:51,720
of one in the center one on the left and

1782
03:20:59,389 --> 03:20:58,309
so the expected config when you get

1783
03:21:02,090 --> 03:20:59,399
there is that they're going to be pulled

1784
03:21:04,910 --> 03:21:02,100
down and in the Little J hook uh we just

1785
03:21:06,590 --> 03:21:04,920
want you to pull it out release the soft

1786
03:21:55,150 --> 03:21:06,600
capture and then re-engage the soft

1787
03:21:59,570 --> 03:21:58,070
just for your awareness we are back with

1788
03:22:26,809 --> 03:21:59,580

you on voice we don't have video quite

1789

03:22:31,670 --> 03:22:30,050

in the center of your view here is NASA

1790

03:22:33,650 --> 03:22:31,680

astronaut and McLean serving as the

1791

03:22:35,389 --> 03:22:33,660

ground IV she's the one you hear

1792

03:22:37,250 --> 03:22:35,399

speaking directly with the astronauts on

1793

03:22:38,630 --> 03:22:37,260

the International Space Station on the

1794

03:22:41,210 --> 03:22:38,640

spacewalk

1795

03:22:42,290 --> 03:22:41,220

they communicate with McLean alone to

1796

03:22:44,269 --> 03:22:42,300

ensure

1797

03:22:48,230 --> 03:22:44,279

streamlined communication and not too

1798

03:22:52,790 --> 03:22:51,050

to her left is Costa madrivias he is

1799

03:22:55,250 --> 03:22:52,800

communicating with the astronauts inside

1800

03:23:12,410 --> 03:22:55,260

the International Space Station who are

1801

03:23:30,590 --> 03:23:15,830

I think we're at 6 40. okay I got a lot

1802

03:23:35,210 --> 03:23:32,990

for both of you just as status a year at

1803

03:23:37,010 --> 03:23:35,220

two hours or just about at two hours pet

1804

03:23:53,210 --> 03:23:37,020

and you're still slightly ahead of

1805

03:23:53,220 --> 03:24:00,710

all right now is that pretty good

1806

03:24:05,929 --> 03:24:03,349

okay fine uh we should drop my throat or

1807

03:24:11,510 --> 03:24:05,939

the Big Show at the midst trucks notices

1808

03:24:17,389 --> 03:24:14,630

in the new Wi-Fi and uh

1809

03:24:23,450 --> 03:24:17,399

opponent between the net and the upper

1810

03:24:23,460 --> 03:25:45,190

foreign

1811

03:26:00,429 --> 03:25:47,570

and Steve good catch we were just

1812

03:26:23,630 --> 03:26:04,790

from your angles that close up back yet

1813

03:26:28,130 --> 03:26:26,030

and Sultan correction to my last uh

1814

03:26:29,690 --> 03:26:28,140

answer you asked about the self-capture

1815

03:26:31,070 --> 03:26:29,700

features there's one on your side and

1816

03:26:32,990 --> 03:26:31,080

then two are kind of tended moreover

1817

03:26:36,229 --> 03:26:33,000

toward Steve's side on the bottom of the

1818

03:26:41,809 --> 03:26:38,330

for me to do all three

1819

03:26:41,819 --> 03:26:48,969

okay

1820

03:26:59,510 --> 03:26:51,170

astronauts continue working on the

1821

03:26:59,520 --> 03:27:03,229

okay

1822

03:27:07,849 --> 03:27:05,630

this multi-layer insulation protects the

1823

03:27:10,070 --> 03:27:07,859

modification kits where future solar

1824

03:27:13,070 --> 03:27:10,080

arrays will be installed

1825

03:27:14,809 --> 03:27:13,080

and that view that we had from Steve

1826
03:27:43,070 --> 03:27:14,819
Bowen's helmet camera International

1827
03:27:43,080 --> 03:27:48,170
copy thank you

1828
03:27:52,729 --> 03:27:50,389
and Sultan so the last thing we'll take

1829
03:27:54,769 --> 03:27:52,739
from you is a hecka scan of all mli

1830
03:27:56,510 --> 03:27:54,779
anything you could see on the right side

1831
03:27:59,090 --> 03:27:56,520
and on Steve's side we just want to make

1832
03:28:01,130 --> 03:27:59,100
sure there's no gaps in the mid and

1833
03:28:05,809 --> 03:28:01,140
upper struts and the demanding bracket

1834
03:28:13,370 --> 03:28:10,670
okay I'm scanning the upper strut now

1835
03:28:31,729 --> 03:28:13,380
than the other side that I can't see

1836
03:28:36,610 --> 03:28:33,650
and Steve as you finish up the same

1837
03:28:40,729 --> 03:28:38,630
same thing for you Steve just a good

1838
03:28:42,290 --> 03:28:40,739

heck of scan of any of the mli pieces

1839

03:28:46,550 --> 03:28:42,300

that you can see in a verification that

1840

03:28:46,560 --> 03:28:55,750

all right let's see what we got here

1841

03:28:55,760 --> 03:29:07,010

so far go off work for the mid

1842

03:29:07,020 --> 03:29:11,030

put this one off

1843

03:29:17,389 --> 03:29:12,889

we appreciate the views we are talking

1844

03:29:20,990 --> 03:29:19,190

all right gentlemen good uh good news

1845

03:29:25,729 --> 03:29:21,000

you did so good on this one that we're

1846

03:29:29,510 --> 03:29:27,590

first

1847

03:29:31,610 --> 03:29:29,520

coffee

1848

03:29:33,229 --> 03:29:31,620

and before translating uh please at

1849

03:29:39,650 --> 03:29:33,239

glove inspection half check and a

1850

03:29:48,950 --> 03:29:42,410

all right let me back down on

1851
03:29:48,960 --> 03:29:55,750
sorry on my left hand I see

1852
03:29:55,760 --> 03:30:00,710
on my index finger

1853
03:30:07,330 --> 03:30:03,050
fingers

1854
03:30:10,550 --> 03:30:07,340
pause my right hand okay

1855
03:30:13,370 --> 03:30:10,560
fine my habits

1856
03:30:15,050 --> 03:30:13,380
down still

1857
03:30:16,610 --> 03:30:15,060
okay Sultan will you copy your left

1858
03:30:32,510 --> 03:30:16,620
index finger and you can confirm that

1859
03:30:32,520 --> 03:30:50,150
all right my gloves

1860
03:30:56,990 --> 03:30:52,490
the astronauts are conducting a glove

1861
03:31:05,450 --> 03:30:59,710
they took a look at their gloves often

1862
03:31:10,309 --> 03:31:07,790
we copy Steve a reminder on your way to

1863
03:31:12,290 --> 03:31:10,319

180.

1864

03:31:13,849 --> 03:31:12,300

good check have dry and reminder Steve

1865

03:31:30,590 --> 03:31:13,859

to pick up the wire tie caddy on your

1866

03:31:35,809 --> 03:31:32,690

again we just saw those glove checks the

1867

03:31:40,309 --> 03:31:37,790

clear it's clear

1868

03:31:43,429 --> 03:31:40,319

thanks

1869

03:31:50,030 --> 03:31:43,439

we'll come back this way and follow me

1870

03:32:00,229 --> 03:31:53,330

everybody grows

1871

03:32:03,769 --> 03:32:02,150

astronauts are periodically asked to

1872

03:32:05,990 --> 03:32:03,779

take a look at their gloves to ensure

1873

03:32:08,090 --> 03:32:06,000

there is no major damage additionally

1874

03:32:10,190 --> 03:32:08,100

they are asked for a hap check that's a

1875

03:32:13,550 --> 03:32:10,200

helmet absorption pad they're able to

1876
03:32:25,670 --> 03:32:15,830
and feel that home and absorption pad to

1877
03:32:29,870 --> 03:32:27,769
this is Mission Control Houston it's two

1878
03:32:32,269 --> 03:32:29,880
hours and six minutes into today's space

1879
03:32:37,490 --> 03:32:34,190
the astronauts have just completed the

1880
03:32:40,330 --> 03:32:37,500
work at the 1B mod kit after routing

1881
03:32:54,050 --> 03:32:40,340
some cables and

1882
03:32:58,610 --> 03:32:56,809
they'll now head over to the 1A mod kit

1883
03:33:09,130 --> 03:32:58,620
where they will do the same installation

1884
03:33:09,140 --> 03:33:12,889
ready to make

1885
03:33:18,229 --> 03:33:14,990
copy your next stop for both of you will

1886
03:33:20,690 --> 03:33:18,239
be to pick up your uh green hook

1887
03:33:24,410 --> 03:33:20,700
from years from 2003 sometimes from

1888
03:33:24,420 --> 03:33:31,370

hey green hooks are next

1889

03:33:31,380 --> 03:34:25,309

week station

1890

03:34:29,389 --> 03:34:27,590

these beautiful views coming from NASA

1891

03:34:49,210 --> 03:34:29,399

astronaut Steve Bowen's helmet camera

1892

03:34:54,290 --> 03:34:51,349

looking down below the International

1893

03:34:56,809 --> 03:34:54,300

Space Station just flew over Puerto Rico

1894

03:34:57,889 --> 03:34:56,819

you can also see the solar arrays

1895

03:35:00,050 --> 03:34:57,899

stretching out from the International

1896

03:35:02,690 --> 03:35:00,060

Space Station

1897

03:35:04,370 --> 03:35:02,700

come up to your green hook after you

1898

03:35:07,250 --> 03:35:04,380

pick them up

1899

03:35:08,870 --> 03:35:07,260

you're going to be moving Nader kind of

1900

03:35:11,929 --> 03:35:08,880

down towards your feet the way you're

1901
03:35:17,630 --> 03:35:11,939
oriented right now next to the A-frame

1902
03:35:25,610 --> 03:35:21,370
okay

1903
03:35:25,620 --> 03:35:40,849
yes we recommend outboard of the A-frame

1904
03:35:40,859 --> 03:36:28,250
foreign

1905
03:36:28,260 --> 03:36:32,150
hook

1906
03:36:36,769 --> 03:36:35,330
and for people as well looking back on

1907
03:36:38,450 --> 03:36:36,779
the trail

1908
03:36:39,950 --> 03:36:38,460
okay happy this is going to be a little

1909
03:36:41,389 --> 03:36:39,960
bit of an orientation change but as

1910
03:36:44,210 --> 03:36:41,399
you're going to go down towards your

1911
03:36:45,290 --> 03:36:44,220
feet outboard of the A-frame

1912
03:36:47,269 --> 03:36:45,300
and then you're going to continue

1913
03:36:49,729 --> 03:36:47,279

inboard

1914

03:36:51,349 --> 03:36:49,739

and you're going to end up with ev1

1915

03:36:55,309 --> 03:36:51,359

Steve you'll be on the right side of the

1916

03:36:55,319 --> 03:37:23,150

and

1917

03:37:23,160 --> 03:37:55,910

okay so I am on the right side

1918

03:37:55,920 --> 03:37:59,809

and Steve we see you arriving there

1919

03:38:03,710 --> 03:38:01,729

your first uh Target is going to be the

1920

03:38:05,450 --> 03:38:03,720

right mid strut that's the first one

1921

03:38:06,830 --> 03:38:05,460

that we think may be problematic and

1922

03:38:08,450 --> 03:38:06,840

you're going to open the mli fasten

1923

03:38:16,250 --> 03:38:08,460

around the midstret collar bolt and

1924

03:38:20,150 --> 03:38:18,110

the astronauts have now arrived at their

1925

03:38:22,370 --> 03:38:20,160

next work site

1926

03:38:43,370 --> 03:38:22,380

they will begin securing the multi-layer

1927

03:38:47,690 --> 03:38:45,469

Sultan your first Target is going to be

1928

03:38:49,429 --> 03:38:47,700

the center pad of the left upper strut

1929

03:39:09,349 --> 03:38:49,439

so kind of the area that's that Steve

1930

03:39:13,370 --> 03:39:11,150

and Steve on that right mid strut

1931

03:39:15,170 --> 03:39:13,380

there's a both a collar bolts we think

1932

03:39:16,490 --> 03:39:15,180

are problematic and then the area

1933

03:39:18,170 --> 03:39:16,500

between the collar bolts and the

1934

03:39:23,410 --> 03:39:18,180

mounting bracket

1935

03:39:45,250 --> 03:39:25,550

come on

1936

03:39:50,330 --> 03:39:48,469

aut Steve Bowen on the left easy to

1937

03:39:52,130 --> 03:39:50,340

identify thanks to the red stripes on

1938

03:39:54,889 --> 03:39:52,140

his spacesuit

1939

03:39:56,750 --> 03:39:54,899

on the right is UAE astronauts will turn

1940

03:39:58,969 --> 03:39:56,760

alnayadi he's wearing an unmarked suit

1941

03:40:12,530 --> 03:39:58,979

but if you look closely you can also see

1942

03:40:16,130 --> 03:40:14,750

and Sultan as you get up there you can

1943

03:40:17,690 --> 03:40:16,140

our suggestions you can either

1944

03:40:19,969 --> 03:40:17,700

reposition those integrals as you're

1945

03:40:22,309 --> 03:40:19,979

working if you need to use wire ties

1946

03:41:25,729 --> 03:40:22,319

from your brt and ensure that that flap

1947

03:41:30,050 --> 03:41:28,370

the multi-layer insulation that these

1948

03:41:32,030 --> 03:41:30,060

astronauts are securing today helps

1949

03:41:33,590 --> 03:41:32,040

protect the structures that are on the

1950

03:41:36,710 --> 03:41:33,600

International Space Station they are

1951

03:41:40,729 --> 03:41:36,720

exposed to extreme varying heat and cold

1952

03:41:44,389 --> 03:41:42,530

this multi-layer insulation helps

1953

03:41:53,210 --> 03:41:44,399

protect against any extra stresses that

1954

03:41:56,510 --> 03:41:54,710

ah

1955

03:42:13,450 --> 03:41:56,520

a

1956

03:42:17,690 --> 03:42:15,229

struts

1957

03:42:19,729 --> 03:42:17,700

yeah that's correct that flap that's

1958

03:42:21,229 --> 03:42:19,739

kind of underneath the uh

1959

03:42:31,969 --> 03:42:21,239

yeah that one needs to go down first

1960

03:42:37,490 --> 03:42:33,410

and you may be able to kind of pull

1961

03:42:39,290 --> 03:42:37,500

those integral ties around uh around the

1962

03:42:52,490 --> 03:42:39,300

strut and then before laying down the

1963

03:42:52,500 --> 03:43:23,990

okay

1964

03:43:24,000 --> 03:43:54,130

foreign

1965

03:43:58,250 --> 03:43:56,870

's a little bit challenging and that

1966

03:44:00,650 --> 03:43:58,260

there may be some metal expose you may

1967

03:44:02,150 --> 03:44:00,660

need to use a wire tie if you do just a

1968

03:44:04,010 --> 03:44:02,160

reminder not to put the wire tie over

1969

03:44:05,750 --> 03:44:04,020

the actual collar bolt but uh or over

1970

03:44:09,590 --> 03:44:05,760

the actual bolt but put it on one side

1971

03:44:09,600 --> 03:44:25,670

coffee

1972

03:44:25,680 --> 03:45:03,410

ah

1973

03:45:03,420 --> 03:46:20,929

a

1974

03:46:20,939 --> 03:46:58,309

foreign

1975

03:47:05,269 --> 03:47:00,650

thank you

1976

03:47:10,610 --> 03:47:08,389

and Steve that is buttoned up nicely uh

1977

03:47:14,150 --> 03:47:10,620

you have uh you got to go from the

1978

03:47:15,410 --> 03:47:14,160

mirror on that one so on your side uh we

1979

03:47:16,849 --> 03:47:15,420

can have you move to the right side of

1980

03:47:39,229 --> 03:47:16,859

the mounting bracket to cycle the soft

1981

03:47:44,210 --> 03:47:40,849

yeah

1982

03:47:45,590 --> 03:47:44,220

went by on that mid Strut by the

1983

03:47:48,410 --> 03:47:45,600

mounting bracket side it looks like the

1984

03:47:53,090 --> 03:47:50,990

yeah we kept that let me cycle this one

1985

03:47:54,469 --> 03:47:53,100

and then I'll take care of that thank

1986

03:47:56,450 --> 03:47:54,479

you

1987

03:47:58,490 --> 03:47:56,460

all right that cycles and back in the

1988

03:48:22,130 --> 03:47:58,500

day

1989

03:48:22,140 --> 03:49:38,210

everyone

1990

03:49:42,790 --> 03:49:41,030

and I don't know if you see a view on my

1991

03:49:45,229 --> 03:49:42,800

camera but uh

1992

03:49:52,570 --> 03:49:45,239

belongs where I die on the

1993

03:50:01,250 --> 03:49:55,250

and Sultan that looks good to us right

1994

03:50:05,210 --> 03:50:03,050

and so so time if you just take a look

1995

03:50:06,590 --> 03:50:05,220

along that whole left mid strip between

1996

03:50:08,510 --> 03:50:06,600

the collar bolts and the mounting

1997

03:50:13,729 --> 03:50:08,520

bracket and just ensure that there's no

1998

03:50:37,729 --> 03:50:34,130

work

1999

03:50:39,950 --> 03:50:37,739

the images

2000

03:50:41,690 --> 03:50:39,960

um well we have you right there just to

2001
03:50:43,969 --> 03:50:41,700
your right side there's a soft capture

2002
03:50:46,370 --> 03:50:43,979
feature so we saw you grab the middle

2003
03:50:48,410 --> 03:50:46,380
one and I think you're going for it that

2004
03:50:49,670 --> 03:50:48,420
we'll need to grab that soft cap capture

2005
03:50:56,530 --> 03:50:49,680
feature on the right side and make sure

2006
03:50:59,170 --> 03:50:58,550
thank you

2007
03:51:02,510 --> 03:50:59,180
um

2008
03:51:04,490 --> 03:51:02,520
yeah there's one kind of over party

2009
03:51:06,349 --> 03:51:04,500
though excellent

2010
03:51:08,510 --> 03:51:06,359
yeah I think I need to go back and be

2011
03:51:20,150 --> 03:51:08,520
able to travel out a little bit more

2012
03:51:20,160 --> 03:51:24,650
in the trade here

2013
03:51:30,650 --> 03:51:28,670

I pulled it down kind of cycle it in

2014

03:51:32,330 --> 03:51:30,660

get it back on

2015

03:51:34,070 --> 03:51:32,340

I think I have to go back and take a

2016

03:51:36,769 --> 03:51:34,080

little look at this thing okay Kathy

2017

03:51:38,870 --> 03:51:36,779

thanks and Sultan when uh as you move

2018

03:51:46,670 --> 03:51:38,880

off of there though oh you got all three

2019

03:51:51,050 --> 03:51:47,990

uh

2020

03:51:53,630 --> 03:51:51,060

so for sultan um we didn't take a heck a

2021

03:51:55,610 --> 03:51:53,640

scan of any of the mli instructors that

2022

03:51:57,050 --> 03:51:55,620

you see on any of the struts and ensure

2023

03:52:05,570 --> 03:51:57,060

that the whole mounting bracket is clear

2024

03:52:09,889 --> 03:52:07,130

I didn't look

2025

03:52:11,389 --> 03:52:09,899

for the uh interesting part between the

2026

03:52:13,729 --> 03:52:11,399

Mitch trust and the

2027

03:52:50,870 --> 03:52:13,739

push right now covered now

2028

03:52:56,650 --> 03:52:53,929

but I think it's gonna start over here

2029

03:53:12,050 --> 03:52:56,660

side

2030

03:53:12,060 --> 03:53:17,929

and then on the upper struts

2031

03:53:23,090 --> 03:53:20,090

I see good in my life I don't see any

2032

03:53:23,630 --> 03:53:23,100

exposed Metals fit for the screws

2033

03:53:26,150 --> 03:53:23,640

um

2034

03:53:30,650 --> 03:53:26,160

I've heard like in uh

2035

03:53:32,990 --> 03:53:30,660

site if I don't see any metallic source

2036

03:53:36,710 --> 03:53:33,000

okay we copy

2037

03:53:41,269 --> 03:53:36,720

um so as we get the as we wait as we

2038

03:53:41,279 --> 03:53:44,809

yeah we copy we're waiting

2039

03:53:48,769 --> 03:53:47,330

looking at the cables that they've got

2040

03:53:50,330 --> 03:53:48,779

here

2041

03:54:14,889 --> 03:53:50,340

I think I need to go back and read that

2042

03:54:20,630 --> 03:54:18,110

Steve from NASA astronaut Steve Bowen's

2043

03:54:23,870 --> 03:54:20,640

helmet camera as he continues to cover

2044

03:54:26,330 --> 03:54:23,880

the market structure with multi-layer

2045

03:54:32,870 --> 03:54:28,070

best size

2046

03:54:32,880 --> 03:54:46,370

good view

2047

03:54:50,090 --> 03:54:48,010

foreign

2048

03:54:51,530 --> 03:54:50,100

that flap that's right in front of you

2049

03:54:53,750 --> 03:54:51,540

that you're kind of the one you're

2050

03:54:55,370 --> 03:54:53,760

playing with uh we may ask it to uh well

2051
03:56:10,490 --> 03:54:55,380
we will ask you to put a wire tie around

2052
03:56:14,809 --> 03:56:13,309
now two hours and 30 minutes since the

2053
03:56:16,610 --> 03:56:14,819
spacewalkers switched their suits to

2054
03:56:25,010 --> 03:56:16,620
internal battery power kicking off the

2055
03:56:30,050 --> 03:56:27,170
yeah we are looking uh we're looking at

2056
03:56:34,010 --> 03:56:32,330
stable your paws right there the next

2057
03:56:36,830 --> 03:56:34,020
thing we'll need is a wire tie down on

2058
03:56:41,090 --> 03:56:38,090
hold on

2059
03:56:44,750 --> 03:56:41,100
I'm gonna pull this one piece it's

2060
03:56:44,760 --> 03:56:53,510
okay

2061
03:56:53,520 --> 03:56:57,469
I have

2062
03:57:03,830 --> 03:56:58,990
um

2063
03:57:08,330 --> 03:57:07,010

one two three four five six seven balls

2064

03:57:14,870 --> 03:57:08,340

too short

2065

03:57:21,969 --> 03:57:16,969

but I use the log of the shorts for my

2066

03:57:27,170 --> 03:57:24,050

and Steve sorry can you repeat the

2067

03:57:33,590 --> 03:57:29,030

it's a seven long

2068

03:57:37,610 --> 03:57:35,870

one two three four five six yeah seven

2069

03:57:39,650 --> 03:57:37,620

long two shorts

2070

03:57:43,969 --> 03:57:39,660

seven long too short we are there with

2071

03:57:49,849 --> 03:57:46,370

and like I said I used to

2072

03:58:41,389 --> 03:57:49,859

one long one short for my Yorkie

2073

03:58:45,889 --> 03:58:43,550

okay we've talked about uh the high

2074

03:58:47,689 --> 03:58:45,899

priority areas and we are happy with the

2075

03:58:49,370 --> 03:58:47,699

uh all of the mli fixes and the high

2076

03:58:52,130 --> 03:58:49,380

priority areas

2077

03:58:53,689 --> 03:58:52,140

we have one area that we'd like you to

2078

03:58:56,090 --> 03:58:53,699

take a look at if you think you can get

2079

03:58:58,309 --> 03:58:56,100

there without translating on the nicely

2080

03:59:00,530 --> 03:58:58,319

tacked up mli and that's on the upper

2081

03:59:03,110 --> 03:59:00,540

strut near the mass canister the areas

2082

03:59:05,870 --> 03:59:03,120

that you worked out at the one Bay Steve

2083

03:59:10,250 --> 03:59:05,880

on the left side we think that the mli

2084

03:59:41,170 --> 03:59:12,889

side upper strut

2085

03:59:52,250 --> 03:59:44,450

actually looks pretty good

2086

03:59:58,070 --> 03:59:54,290

push that left side I think looks pretty

2087

04:00:01,729 --> 03:59:59,870

Kathy

2088

04:00:10,370 --> 04:00:01,739

yeah if you get a good look on both

2089

04:00:16,969 --> 04:00:12,110

and Steve are you able to get an eye on

2090

04:00:20,990 --> 04:00:18,830

I think we'll have to take a look at the

2091

04:00:22,550 --> 04:00:21,000

race

2092

04:00:24,650 --> 04:00:22,560

and I'll tell you the kind of

2093

04:00:27,530 --> 04:00:24,660

problematic area that we uh that we're

2094

04:00:28,790 --> 04:00:27,540

looking at is the left upper strut but

2095

04:00:29,990 --> 04:00:28,800

kind of on the back side from where

2096

04:00:32,570 --> 04:00:30,000

you're looking at all that on the mass

2097

04:00:33,830 --> 04:00:32,580

canister side and just if you can try to

2098

04:00:39,189 --> 04:00:33,840

get eyes on it it's kind of the area

2099

04:00:39,199 --> 04:00:47,389

out here

2100

04:00:51,290 --> 04:00:49,550

okay look at both sides of this left

2101
04:00:53,090 --> 04:00:51,300
upper stripe

2102
04:00:56,570 --> 04:00:53,100
that looks good

2103
04:01:03,050 --> 04:00:56,580
right upper strap up at the top

2104
04:01:06,889 --> 04:01:05,030
yeah let's see what you're talking about

2105
04:01:18,469 --> 04:01:06,899
now

2106
04:01:24,650 --> 04:01:21,050
two hours 35 minutes into the spacewalk

2107
04:01:26,150 --> 04:01:24,660
and we are in a Handover of satellites

2108
04:01:29,570 --> 04:01:26,160
that allow us to communicate with the

2109
04:01:35,150 --> 04:01:31,790
the astronauts continue to work on

2110
04:01:40,910 --> 04:01:35,160
securing mli multi-layer installation

2111
04:01:46,330 --> 04:01:42,830
this comes after completing some cable

2112
04:01:49,130 --> 04:01:46,340
routing as well as additional mli

2113
04:01:50,689 --> 04:01:49,140

installation after the Handover we're

2114

04:01:52,370 --> 04:01:50,699

about five minutes to a sunset in full

2115

04:01:53,510 --> 04:01:52,380

town we just wanted to send you a quick

2116

04:01:54,710 --> 04:01:53,520

note we were looking at your helmet

2117

04:01:56,870 --> 04:01:54,720

lights and we think your left side

2118

04:02:02,450 --> 04:01:56,880

helmet light may not have been on in the

2119

04:02:02,460 --> 04:02:15,469

coffee

2120

04:02:20,090 --> 04:02:17,450

the modification kits where the

2121

04:02:22,790 --> 04:02:20,100

astronauts are working today will are

2122

04:02:24,410 --> 04:02:22,800

where we will have future irosas

2123

04:02:27,170 --> 04:02:24,420

International Space Station roll out

2124

04:02:29,750 --> 04:02:27,180

solar arrays installed if you see a view

2125

04:02:31,969 --> 04:02:29,760

of my camera

2126
04:02:39,950 --> 04:02:31,979
we see it now that looks beautiful thank

2127
04:02:46,130 --> 04:02:42,530
four new irosas have been installed on

2128
04:02:49,969 --> 04:02:48,349
Kathy good work thank you Steve uh and

2129
04:03:26,510 --> 04:02:49,979
for both of you we can kind of back off

2130
04:03:30,889 --> 04:03:29,870
all right quickly before the thing goes

2131
04:03:52,490 --> 04:03:30,899
down

2132
04:03:52,500 --> 04:03:55,550
and that's right

2133
04:03:59,990 --> 04:03:57,889
and as you guys uh

2134
04:04:01,670 --> 04:04:00,000
get reset off of that worksite uh so

2135
04:04:04,250 --> 04:04:01,680
it's on just a couple systems notes for

2136
04:04:07,370 --> 04:04:04,260
you uh we're about 10 minutes from where

2137
04:04:09,110 --> 04:04:07,380
the OT sensor readings had been seen to

2138
04:04:10,189 --> 04:04:09,120

be erratic before uh so just be

2139

04:04:13,490 --> 04:04:10,199

awareness

2140

04:04:14,750 --> 04:04:13,500

think that your helmet lights um came

2141

04:04:16,610 --> 04:04:14,760

detached from your helmet and they're

2142

04:04:18,469 --> 04:04:16,620

being held on by the strap there's no

2143

04:04:19,969 --> 04:04:18,479

action needed for you but I'm just

2144

04:04:25,729 --> 04:04:19,979

letting you know that it might be a

2145

04:04:25,739 --> 04:04:30,590

okay call for that keep an eye on that

2146

04:04:30,600 --> 04:04:35,290

for me

2147

04:04:40,130 --> 04:04:37,849

and Steven Sultan we just got word from

2148

04:04:42,410 --> 04:04:40,140

the myrrh they are happy with your mli

2149

04:04:45,710 --> 04:04:42,420

work on one alpha so that will complete

2150

04:04:55,490 --> 04:04:49,550

s

2151
04:04:58,969 --> 04:04:55,500
uh Steve will have you hand the wire tie

2152
04:05:00,710 --> 04:04:58,979
caddy uh to Sultan and Sultan you'll

2153
04:05:03,530 --> 04:05:00,720
just carried on your mws

2154
04:05:04,969 --> 04:05:03,540
uh and it's that bayonet fitting might

2155
04:05:07,670 --> 04:05:04,979
keep it a little bit tighter onto your

2156
04:05:12,710 --> 04:05:07,680
mws and for both of you a glove half and

2157
04:05:12,720 --> 04:05:41,269
okay

2158
04:05:41,279 --> 04:05:49,429
let's open the front of this

2159
04:05:54,469 --> 04:05:52,189
if you reps

2160
04:06:08,570 --> 04:05:54,479
before I drop it back

2161
04:06:14,330 --> 04:06:11,210
I am amongst your feathers here

2162
04:06:18,830 --> 04:06:14,340
look like it's too crossed

2163
04:06:18,840 --> 04:06:28,010

you're heading back to the right

2164

04:06:31,490 --> 04:06:29,450

um

2165

04:06:33,769 --> 04:06:31,500

do you want me to go ahead of you and

2166

04:06:36,050 --> 04:06:33,779

then pose

2167

04:06:39,469 --> 04:06:36,060

yeah I'm trying to help us to do that um

2168

04:06:43,490 --> 04:06:41,269

they'll pick up my local and then I'll

2169

04:06:46,670 --> 04:06:43,500

head oh let me double track where mine

2170

04:06:46,680 --> 04:07:07,610

make it low for your body

2171

04:07:12,170 --> 04:07:09,229

all right let's hung up what's up hold

2172

04:07:12,180 --> 04:07:36,110

yeah there you go

2173

04:07:46,269 --> 04:07:38,269

wow

2174

04:07:50,570 --> 04:07:48,170

positions as you get to where your green

2175

04:07:53,929 --> 04:07:50,580

hooks were so Sultan our recommendation

2176

04:07:56,389 --> 04:07:53,939

is that you lead back out to 2004 and

2177

04:07:58,429 --> 04:07:56,399

then Steve follow him out to those that

2178

04:08:00,170 --> 04:07:58,439

where your green hooks were

2179

04:08:02,510 --> 04:08:00,180

and then Steve will lead the translation

2180

04:08:05,090 --> 04:08:02,520

back in big picture Steve your next task

2181

04:08:10,370 --> 04:08:05,100

is arm set up and full-time yours is

2182

04:08:10,380 --> 04:08:16,309

all right coffee

2183

04:08:43,389 --> 04:08:19,849

I'm at 2004. we'll fail to get up there

2184

04:08:50,210 --> 04:08:45,710

and before translation can we get a

2185

04:08:50,220 --> 04:09:04,610

I'm sorry

2186

04:09:04,620 --> 04:09:09,290

both clubs look good

2187

04:09:09,300 --> 04:09:19,870

copy thanks Steve and foreign

2188

04:09:24,950 --> 04:09:23,269

okay copy thank you so Steve you'll

2189

04:09:29,830 --> 04:09:24,960

leave the translation in you're heading

2190

04:09:34,550 --> 04:09:31,910

and you will leave your anchors right

2191

04:09:36,229 --> 04:09:34,560

where they are pass the anchors and uh

2192

04:09:38,150 --> 04:09:36,239

Sultan you're going to be heading into

2193

04:09:40,490 --> 04:09:38,160

the esp2 work sites you're going to

2194

04:09:42,349 --> 04:09:40,500

follow Steve

2195

04:09:51,110 --> 04:09:42,359

uh

2196

04:09:57,590 --> 04:09:53,570

all right so first you until these this

2197

04:09:59,030 --> 04:09:57,600

version right down to the esp2

2198

04:10:00,170 --> 04:09:59,040

good words and you actually go down the

2199

04:10:01,550 --> 04:10:00,180

seat of spur

2200

04:10:04,130 --> 04:10:01,560

um and we're going to have you fairly

2201
04:10:05,929 --> 04:10:04,140
near the port airlock toolbox when you

2202
04:10:13,130 --> 04:10:05,939
get down there and this will also be uh

2203
04:10:13,140 --> 04:10:26,929
drop top

2204
04:10:32,830 --> 04:10:29,570
coming up on two hours and 45 minutes

2205
04:10:35,269 --> 04:10:32,840
into today's space walk

2206
04:10:37,790 --> 04:10:35,279
this view from NASA astronaut Steve

2207
04:10:40,010 --> 04:10:37,800
Bowen's helmet camera

2208
04:10:42,290 --> 04:10:40,020
both spacewalkers have accomplished the

2209
04:10:45,469 --> 04:10:42,300
first major task of today which is

2210
04:10:48,290 --> 04:10:45,479
routing cables and modifying securing

2211
04:10:51,229 --> 04:10:48,300
mli multi-layer insulation to the mod

2212
04:10:56,990 --> 04:10:51,239
kits where future irosa arrays will be

2213
04:11:01,610 --> 04:10:59,090

the astronauts are now translating to

2214

04:11:04,370 --> 04:11:01,620

their next work site you're sitting at

2215

04:11:05,510 --> 04:11:04,380

about two hours and 45 minutes per and

2216

04:11:07,490 --> 04:11:05,520

you're about 10 minutes ahead of the

2217

04:11:10,130 --> 04:11:07,500

timeline and we just got the call that

2218

04:11:19,990 --> 04:11:10,140

all the inhibitors are placed for rfg so

2219

04:11:24,310 --> 04:11:22,849

the next task is for the astronauts to

2220

04:11:32,510 --> 04:11:24,320

retrieve the rfg

2221

04:11:32,520 --> 04:11:59,090

I think it's called on the cables

2222

04:11:59,100 --> 04:12:15,950

it's on yeah be enough

2223

04:12:24,650 --> 04:12:18,110

okay make sure this doesn't still be

2224

04:12:30,290 --> 04:12:27,130

all right

2225

04:12:40,309 --> 04:12:30,300

hold on let me get the

2226

04:12:43,550 --> 04:12:42,110

again the next task for our space

2227

04:12:45,410 --> 04:12:43,560

Walkers is to retrieve the radio

2228

04:12:49,550 --> 04:12:45,420

frequency group

2229

04:12:51,229 --> 04:12:49,560

this is part of the s-band antenna

2230

04:12:52,910 --> 04:12:51,239

the s-band antenna is our critical

2231

04:12:55,010 --> 04:12:52,920

command and data link to and from the

2232

04:12:56,809 --> 04:12:55,020

space station of course we do have

2233

04:13:07,000 --> 04:12:56,819

redundancy

2234

04:13:07,010 --> 04:13:13,490

[Music]

2235

04:13:17,389 --> 04:13:15,710

the radio frequency crew houses the

2236

04:13:20,929 --> 04:13:17,399

electronics High Gain and low gain

2237

04:13:22,670 --> 04:13:20,939

antennas on the s-band system

2238

04:13:31,849 --> 04:13:22,680

we'll grab that

2239

04:13:37,510 --> 04:13:34,550

the astronauts will remove the rfg and

2240

04:13:40,070 --> 04:13:37,520

bring it inside the space station

2241

04:13:43,510 --> 04:13:40,080

the wire is folded so it's caught back

2242

04:13:43,520 --> 04:13:48,410

a little bit

2243

04:13:48,420 --> 04:13:53,510

let's see what it's hooked on

2244

04:13:53,520 --> 04:14:03,950

okay let me standing

2245

04:14:19,309 --> 04:14:05,210

on the

2246

04:14:19,319 --> 04:14:32,570

yep

2247

04:14:38,269 --> 04:14:34,969

great opinion 10 and it's coming good

2248

04:14:57,410 --> 04:14:53,630

thank you

2249

04:14:57,420 --> 04:15:31,550

ah

2250

04:15:36,229 --> 04:15:33,670

so you're

2251

04:15:39,469 --> 04:15:36,239

trying to go behind me

2252

04:15:42,950 --> 04:15:39,479

I need to get it up and over my head

2253

04:15:47,450 --> 04:15:44,510

your son don't feel like I'm close to

2254

04:15:47,460 --> 04:15:55,130

especially goes behind me

2255

04:15:59,030 --> 04:15:56,929

so where we want it for the next setup

2256

04:16:01,429 --> 04:15:59,040

for these tethers just for awareness is

2257

04:16:04,910 --> 04:16:01,439

Sultan should go from the anchor down to

2258

04:16:07,010 --> 04:16:04,920

a fairly by the port airlock toolbox

2259

04:16:09,110 --> 04:16:07,020

and Steve's yours will go from the

2260

04:16:11,030 --> 04:16:09,120

anchor to a fairly that you're going to

2261

04:16:31,290 --> 04:16:11,040

put on the lab stretch

2262

04:16:31,300 --> 04:17:03,490

[Music]

2263

04:17:03,500 --> 04:17:09,290

excuse me

2264

04:17:16,910 --> 04:17:12,769

I'm gonna go a little bit later as well

2265

04:17:16,920 --> 04:17:23,510

towards me yeah

2266

04:17:23,520 --> 04:18:33,110

foreign

2267

04:18:44,269 --> 04:18:35,210

that's good

2268

04:18:48,170 --> 04:18:46,490

as our astronauts continue to translate

2269

04:18:51,110 --> 04:18:48,180

to the next work site the International

2270

04:18:53,809 --> 04:18:51,120

Space Station is flying 261 statute

2271

04:19:08,150 --> 04:18:53,819

miles over the Indian Ocean West of

2272

04:19:12,290 --> 04:19:10,189

as you can see in The View

2273

04:19:15,410 --> 04:19:12,300

the astronauts do have lights on their

2274

04:19:19,790 --> 04:19:15,420

helmet to help them work during these uh

2275

04:19:23,809 --> 04:19:20,990

all right Steve you're going to go under

2276
04:19:26,330 --> 04:19:23,819
the Mt to the port Cedar cart and you're

2277
04:19:28,610 --> 04:19:26,340
going to be looking for the apfr in the

2278
04:19:34,610 --> 04:19:28,620
top left whiff which is with three and

2279
04:19:34,620 --> 04:19:47,090
all right

2280
04:19:47,100 --> 04:19:51,050
thank you

2281
04:19:56,990 --> 04:19:53,050
um

2282
04:19:59,650 --> 04:19:57,000
Bravo and one alpha is where you can

2283
04:20:01,729 --> 04:19:59,660
figure one problem as desired

2284
04:20:04,309 --> 04:20:01,739
or don't expect we're going to get to

2285
04:20:05,170 --> 04:20:04,319
any get ahead and I'm gonna go around be

2286
04:20:10,429 --> 04:20:05,180
superstar now

2287
04:20:15,830 --> 04:20:12,410
and copy Sultan yep you're going to head

2288
04:20:18,469 --> 04:20:15,840

down the seat of spur

2289

04:20:20,150 --> 04:20:18,479

and then you can turn on the GoPro and

2290

04:20:22,969 --> 04:20:20,160

you're gonna have fair lead on the port

2291

04:20:24,830 --> 04:20:22,979

west near the port airlock toolbox and

2292

04:20:32,030 --> 04:20:24,840

when you pause I have a couple words for

2293

04:20:32,040 --> 04:20:40,250

look it up

2294

04:20:44,990 --> 04:20:42,830

hey we're three is the one that's

2295

04:20:47,269 --> 04:20:45,000

currently in the middle swing arm

2296

04:20:49,750 --> 04:20:47,279

correct

2297

04:20:52,370 --> 04:20:49,760

yes with three which is

2298

04:20:53,689 --> 04:20:52,380

that's correct Papa Pompa and then we

2299

04:20:56,210 --> 04:20:53,699

have you don't change the pitch setting

2300

04:20:57,950 --> 04:20:56,220

for translation and you can sew that on

2301
04:21:09,670 --> 04:20:57,960
your brt

2302
04:21:18,590 --> 04:21:12,170
for the arm and you can set that anytime

2303
04:21:21,349 --> 04:21:20,630
this view from Steve Bowen's helmet

2304
04:21:24,889 --> 04:21:21,359
camera

2305
04:21:28,429 --> 04:21:24,899
as he picks up a an apfr articulating

2306
04:21:34,309 --> 04:21:31,130
as overheard he'll stood that on his brt

2307
04:21:35,929 --> 04:21:34,319
the body restraint tether

2308
04:21:37,969 --> 04:21:35,939
he'll then attach it to the Canon arm

2309
04:21:40,250 --> 04:21:37,979
too which will be used during the next

2310
04:21:42,349 --> 04:21:40,260
task when they remove the rfg the radio

2311
04:22:02,450 --> 04:21:42,359
frequency group and prepare to bring it

2312
04:22:02,460 --> 04:22:05,450
oh it's

2313
04:22:05,460 --> 04:22:12,710

10 under my legs

2314

04:24:36,729 --> 04:23:49,550

foreign

2315

04:24:36,739 --> 04:24:43,550

let us know if you need any assistance

2316

04:24:47,210 --> 04:24:45,889

yeah before we move from this horse I

2317

04:24:49,070 --> 04:24:47,220

just want to

2318

04:24:52,429 --> 04:24:49,080

start off a wraps

2319

04:25:02,990 --> 04:24:52,439

they crossed behind my place but

2320

04:25:06,410 --> 04:25:04,729

to help you out here just grab the Yates

2321

04:25:08,389 --> 04:25:06,420

you're far

2322

04:25:10,429 --> 04:25:08,399

no problem Steve

2323

04:25:12,590 --> 04:25:10,439

and yes they would like you to head back

2324

04:25:17,929 --> 04:25:12,600

a little bit outboard to the other side

2325

04:25:23,269 --> 04:25:20,450

yeah let me uh

2326
04:25:25,189 --> 04:25:23,279
you have a lot of strutting my fair lead

2327
04:25:29,689 --> 04:25:25,199
and then I'll go help him

2328
04:25:29,699 --> 04:25:36,469
yeah we can cover with that one

2329
04:25:36,479 --> 04:25:44,790
the uh

2330
04:25:54,070 --> 04:25:46,090
[Music]

2331
04:25:54,080 --> 04:26:08,170
on the starboard Lobster of Andrew

2332
04:26:13,070 --> 04:26:10,610
where are you right now I like to see

2333
04:26:14,649 --> 04:26:13,080
this man okay I'll be up in a second if

2334
04:26:36,010 --> 04:26:14,659
I get to see him

2335
04:26:59,630 --> 04:26:38,630
I just wait for you I think it's gone my

2336
04:29:07,490 --> 04:28:12,710
foreign

2337
04:29:24,830 --> 04:29:08,510
okay

2338
04:29:30,050 --> 04:29:27,950

it is clear then I was wrapped around my

2339

04:29:32,149 --> 04:29:30,060

pgk unfortunately

2340

04:29:34,969 --> 04:29:32,159

all right nicely done so you can

2341

04:29:37,010 --> 04:29:34,979

continue down the port airlock or down

2342

04:29:38,990 --> 04:29:37,020

the Cedar Square to the GoPro and you

2343

04:29:42,889 --> 04:29:39,000

can turn that on and Steve you can go

2344

04:29:49,429 --> 04:29:42,899

down uh to the front side of esp2 via

2345

04:29:59,689 --> 04:29:52,070

first on my way

2346

04:29:59,699 --> 04:30:09,010

thank you

2347

04:30:15,590 --> 04:30:12,229

game for three hours

2348

04:30:20,090 --> 04:30:15,600

okay our limiting is meta from 52 at

2349

04:30:20,100 --> 04:30:32,030

[Applause]

2350

04:30:32,040 --> 04:30:42,830

thank you

2351

04:30:42,840 --> 04:31:29,330

copy Fair leading place

2352

04:31:34,429 --> 04:31:32,630

okay cameras on

2353

04:31:36,530 --> 04:31:34,439

copy the camera's on so if you can go

2354

04:31:38,750 --> 04:31:36,540

over near the uh we're thinking on the

2355

04:31:40,790 --> 04:31:38,760

port with near the port airlock toolbox

2356

04:31:43,849 --> 04:31:40,800

uh and fairlead and then you're going to

2357

04:31:45,469 --> 04:31:43,859

translate around the side of esp2 where

2358

04:31:48,110 --> 04:31:45,479

you had where you stowed the crew of a

2359

04:31:53,090 --> 04:31:48,120

bag form and you're going to Stow the

2360

04:31:53,100 --> 04:32:10,130

a coffee

2361

04:32:10,140 --> 04:33:15,769

okay

2362

04:33:20,330 --> 04:33:17,449

and Steve as you get in a good position

2363

04:33:22,429 --> 04:33:20,340

on the front of esp2 there your next

2364

04:33:25,010 --> 04:33:22,439

step is going to be to give Frank a go

2365

04:33:26,269 --> 04:33:25,020

to GCA to the apfr install and Ingress

2366

04:33:28,189 --> 04:33:26,279

position so you just want to position

2367

04:33:32,449 --> 04:33:28,199

yourself to where you are clear but can

2368

04:33:32,459 --> 04:33:58,570

okay let me get myself there

2369

04:34:02,570 --> 04:34:01,310

now over three hours into the spacewalk

2370

04:34:04,869 --> 04:34:02,580

today

2371

04:34:08,689 --> 04:34:04,879

astronauts are preparing for the next

2372

04:34:10,849 --> 04:34:08,699

major task on their list

2373

04:34:28,789 --> 04:34:10,859

this is to remove the rfg the radio

2374

04:34:32,810 --> 04:34:31,369

again the radio frequency group is the

2375

04:34:35,510 --> 04:34:32,820

computer and electronics that control

2376

04:34:37,429 --> 04:34:35,520

the s-band system

2377

04:34:39,650 --> 04:34:37,439

and this portion of the system will be

2378

04:34:41,390 --> 04:34:39,660

brought inside the International Space

2379

04:34:43,551 --> 04:34:41,400

Station before being returned to Earth

2380

04:35:24,170 --> 04:34:43,561

for refurbishment and eventually return

2381

04:35:30,109 --> 04:35:25,609

data

2382

04:35:30,119 --> 04:35:36,170

okay so that's where we're going

2383

04:35:36,180 --> 04:35:47,150

for my brother

2384

04:35:55,429 --> 04:35:49,670

then I'm a basp and I have the bag in

2385

04:36:00,470 --> 04:35:58,429

hey Sultan you can Stow The Wire

2386

04:36:02,150 --> 04:36:00,480

and then I have a couple systems words

2387

04:36:33,730 --> 04:36:02,160

for you when you have time to look at

2388

04:36:45,289 --> 04:36:36,830

and then that's why Cathy will go into

2389

04:36:50,750 --> 04:36:47,330

and yes sometime we're going to Stow the

2390

04:36:55,070 --> 04:36:50,760

wire tie caddy into crew lock bag one

2391

04:36:55,080 --> 04:37:01,150

at the same time

2392

04:37:10,369 --> 04:37:03,709

yes you can put it on any available

2393

04:37:14,689 --> 04:37:11,990

ER

2394

04:37:21,051 --> 04:37:18,189

install an English position

2395

04:37:24,470 --> 04:37:21,061

GCA to published our published position

2396

04:37:25,849 --> 04:37:24,480

is 1.1 meters station ask and we're

2397

04:37:30,051 --> 04:37:25,859

starting motion

2398

04:37:30,061 --> 04:37:36,670

good motion

2399

04:37:36,680 --> 04:37:45,769

thank you

2400

04:37:50,449 --> 04:37:47,810

half a meter to go

2401

04:37:59,689 --> 04:37:50,459

continue to publish

2402

04:37:59,699 --> 04:38:04,730

stepping out

2403

04:38:10,551 --> 04:38:07,310

okay Steve that's your published all

2404

04:38:16,490 --> 04:38:12,890

hey can I get

2405

04:38:18,650 --> 04:38:16,500

another 30 centimeters stationed out

2406

04:38:21,890 --> 04:38:18,660

the initial three zero centimeters

2407

04:38:26,150 --> 04:38:24,289

multiple voices in the mix now as NASA

2408

04:38:30,230 --> 04:38:26,160

astronaut Woody hoberg inside the space

2409

04:38:32,150 --> 04:38:30,240

station is commanding the Canada arm 2.

2410

04:38:35,209 --> 04:38:32,160

Steve Bowen will

2411

04:38:38,090 --> 04:38:35,219

uh be on the Canon arm too

2412

04:38:40,849 --> 04:38:38,100

to help with the with some stabilization

2413

04:38:49,609 --> 04:38:40,859

for the rfg removal position

2414

04:38:49,619 --> 04:38:57,170

coffee

2415

04:39:01,310 --> 04:38:59,150

and Steve you could install the apfr

2416

04:39:07,449 --> 04:39:01,320

onto the arm you're looking for 12 papa

2417

04:39:12,590 --> 04:39:10,570

first whole time

2418

04:39:14,330 --> 04:39:12,600

yep good read back

2419

04:39:15,529 --> 04:39:14,340

for sultan well you have that bag in

2420

04:39:17,090 --> 04:39:15,539

your hand you're going to retrieve the

2421

04:39:18,650 --> 04:39:17,100

large small writ that's on the handrail

2422

04:39:24,470 --> 04:39:18,660

of that bag and you're going to put the

2423

04:39:31,551 --> 04:39:25,970

which is the same handrail that your

2424

04:39:31,561 --> 04:39:52,368

for profit

2425

04:39:57,170 --> 04:39:55,368

great view here of Steve Bowen as he

2426

04:40:00,050 --> 04:39:57,180

handles the apfr the articulating

2427

04:40:02,208 --> 04:40:00,060

portable foot restraint and places it on

2428

04:40:13,130 --> 04:40:02,218

the Canada arm too the latching end

2429

04:40:17,810 --> 04:40:14,630

and of course we have another brief

2430

04:40:21,830 --> 04:40:19,130

teams here in Mission Control Houston

2431

04:40:23,630 --> 04:40:21,840

continuing to monitor everything about

2432

04:40:25,190 --> 04:40:23,640

today's spacewalk including the status

2433

04:40:27,288 --> 04:40:25,200

of the astronauts inside the space

2434

04:40:29,570 --> 04:40:27,298

station of course our astronauts outside

2435

04:40:31,208 --> 04:40:29,580

and keeping up with those tasks as well

2436

04:40:34,250 --> 04:40:31,218

as the uh

2437

04:40:42,530 --> 04:40:34,260

consumables for the astronauts including

2438

04:40:46,208 --> 04:40:44,750

copy black on black and we're just back

2439

04:40:48,530 --> 04:40:46,218

with you from a Handover

2440

04:40:50,590 --> 04:40:48,540

call the pull twist test we missed it

2441

04:40:53,570 --> 04:40:50,600

hold on

2442

04:40:56,448 --> 04:40:53,580

photography uh

2443

04:41:00,288 --> 04:40:56,458

black on black again twisted

2444

04:41:04,390 --> 04:41:00,298

feels like a game but I haven't twisted

2445

04:41:08,630 --> 04:41:06,590

copy a couple notes for sultan while

2446

04:41:11,810 --> 04:41:08,640

Steve works at one is that we're out of

2447

04:41:14,270 --> 04:41:11,820

the range if you're erratic sensor so

2448

04:41:15,890 --> 04:41:14,280

we're not worried about that anymore for

2449

04:41:17,930 --> 04:41:15,900

your glove what we want you to do is

2450

04:41:19,070 --> 04:41:17,940

take a look at the flap and see if you

2451

04:41:20,810 --> 04:41:19,080

can look underneath it and make sure

2452

04:41:22,368 --> 04:41:20,820

that there's no additional damage to any

2453

04:41:26,270 --> 04:41:22,378

other of the glove structure other than

2454

04:41:29,750 --> 04:41:28,430

and just a reminder that on the index

2455

04:41:33,970 --> 04:41:29,760

finger you've got that Turtle skin

2456

04:41:40,788 --> 04:41:37,010

and I did report initially that that

2457

04:41:42,530 --> 04:41:40,798

slab has another RTD slab but nothing is

2458

04:41:45,650 --> 04:41:42,540

exposed

2459

04:41:50,090 --> 04:41:47,270

okay good words thanks for double

2460

04:41:51,650 --> 04:41:50,100

checking that so Sultan your next

2461

04:41:53,510 --> 04:41:51,660

um your next step is going to be to

2462

04:41:56,570 --> 04:41:53,520

pre-stage the long wire tie on the

2463

04:42:01,610 --> 04:41:56,580

clamshell mli so double check that you

2464

04:42:09,410 --> 04:42:04,010

because if I'm gonna go through any from

2465

04:42:09,420 --> 04:42:17,288

I only have short on the majority

2466

04:42:21,590 --> 04:42:20,330

okay yeah we agree with that uh Sultan

2467

04:42:23,090 --> 04:42:21,600

sorry about that I should have cut that

2468

04:42:24,830 --> 04:42:23,100

before you put that in there so we'll

2469

04:42:27,890 --> 04:42:24,840

have you grab one long wire tie in the

2470

04:42:34,430 --> 04:42:30,708

five coffee and walk

2471

04:42:36,708 --> 04:42:34,440

hey man I had a hard time with this

2472

04:42:46,190 --> 04:42:36,718

black on black

2473

04:42:51,070 --> 04:42:48,948

looks like it's in there color does not

2474

04:43:00,050 --> 04:42:51,080

want to move

2475

04:43:04,700 --> 04:43:02,230

Justin

2476

04:43:15,368 --> 04:43:04,710

we're taking a look

2477

04:43:20,690 --> 04:43:17,570

I've moved it a little bit there we go

2478

04:43:22,010 --> 04:43:20,700

round block of black so I cycled oh but

2479

04:43:27,530 --> 04:43:22,020

then it came out

2480

04:43:35,448 --> 04:43:30,350

okay now I got 12.

2481

04:43:41,650 --> 04:43:38,090

okay we we copy that uh it might just be

2482

04:43:41,660 --> 04:43:46,190

I'm sure

2483

04:43:46,200 --> 04:43:55,250

hold on

2484

04:43:59,270 --> 04:43:57,530

all right now I got a good twist the

2485

04:44:01,430 --> 04:43:59,280

black on black

2486

04:44:04,970 --> 04:44:01,440

yeah collar is very stiff I think that's

2487

04:44:15,708 --> 04:44:07,128

we lived in place

2488

04:44:24,230 --> 04:44:17,448

and we're checking Steve we may have you

2489

04:44:29,090 --> 04:44:26,330

teams on the ground helping NASA

2490

04:44:30,708 --> 04:44:29,100

astronauts Depot and troubleshoot uh the

2491

04:44:34,990 --> 04:44:30,718

install of the articulating portable

2492

04:44:41,750 --> 04:44:37,250

meanwhile we saw the International Space

2493

04:44:45,470 --> 04:44:43,490

okay Steve we're going to have you give

2494

04:44:46,970 --> 04:44:45,480

that one more really good pull test and

2495

04:44:49,010 --> 04:44:46,980

rather than pulling on the boot plate if

2496

04:44:50,628 --> 04:44:49,020

you could live uh go down

2497

04:44:52,490 --> 04:44:50,638

to where the load limiter is just

2498

04:44:54,470 --> 04:44:52,500

obviously making sure you don't squeeze

2499

04:44:59,830 --> 04:44:54,480

the paddles and

2500

04:44:59,840 --> 04:45:03,288

to look cool

2501
04:45:03,298 --> 04:45:07,550
okay

2502
04:45:11,990 --> 04:45:10,368
all right that's good we appreciate the

2503
04:45:17,090 --> 04:45:12,000
setup so your next step is going to be

2504
04:45:17,100 --> 04:45:26,750
okay all right

2505
04:45:32,090 --> 04:45:28,550
so we can have one of you install the

2506
04:45:34,010 --> 04:45:32,100
long wire tie onto the clamshell moi

2507
04:45:36,050 --> 04:45:34,020
and we'll be assessing the clamshell mli

2508
04:45:37,910 --> 04:45:36,060
for snugness and then we also need to

2509
04:45:46,310 --> 04:45:37,920
retrieve the Eva scissors and cut the

2510
04:45:46,320 --> 04:45:54,230
better

2511
04:45:54,240 --> 04:46:55,128
let's play PRT is cradled upon

2512
04:46:55,138 --> 04:47:05,090
all right

2513
04:47:05,100 --> 04:47:11,270

ah

2514

04:47:14,448 --> 04:47:13,128

and Steve we think what you could start

2515

04:47:23,208 --> 04:47:14,458

doing is undoing the quarter turn

2516

04:47:30,830 --> 04:47:25,190

and Sultan you can move over to that

2517

04:47:35,690 --> 04:47:33,590

see that I'm just uh

2518

04:47:45,230 --> 04:47:35,700

52 degrees

2519

04:47:48,550 --> 04:47:46,670

it's gonna drop that green Hulk

2520

04:47:52,010 --> 04:47:48,560

somewhere

2521

04:47:59,810 --> 04:47:52,020

presentation that the green Hulk is we

2522

04:47:59,820 --> 04:48:07,310

Maybe

2523

04:48:11,270 --> 04:48:09,230

I'll check

2524

04:48:12,230 --> 04:48:11,280

until Todd yes you can drop your green

2525

04:48:14,810 --> 04:48:12,240

hook

2526

04:48:17,270 --> 04:48:14,820

um so we recommend one one method would

2527

04:48:19,490 --> 04:48:17,280

be to fairlead over by the port airlock

2528

04:48:20,990 --> 04:48:19,500

toolboxes but you can also put your

2529

04:48:22,430 --> 04:48:21,000

green hooks down to get your Templars

2530

04:48:26,930 --> 04:48:22,440

out of the way wherever you see fit

2531

04:48:33,230 --> 04:48:30,288

let's regardless and I think it was uh

2532

04:48:37,010 --> 04:48:33,240

the red wheel caught behind the ESP

2533

04:48:39,650 --> 04:48:37,020

structure I have enough time to work

2534

04:48:39,660 --> 04:48:41,708

yeah

2535

04:48:46,310 --> 04:48:44,090

I don't see the quarter firm Fasteners

2536

04:48:49,250 --> 04:48:46,320

on the back side correct

2537

04:48:53,150 --> 04:48:49,260

uh nothing on the deck just the uh

2538

04:49:00,110 --> 04:48:56,750

yeah that's right it's just is court and

2539

04:49:00,120 --> 04:49:06,910

there should be ten total

2540

04:49:11,810 --> 04:49:09,530

and then on the ISS starboard side

2541

04:49:20,990 --> 04:49:11,820

there's going to be a MLive velcro flap

2542

04:49:21,000 --> 04:49:42,650

all right

2543

04:49:42,660 --> 04:50:34,868

foreign

2544

04:50:40,070 --> 04:50:38,208

and just a reminder on the a couple

2545

04:50:42,230 --> 04:50:40,080

cautions for you guys around the antenna

2546

04:50:44,030 --> 04:50:42,240

we don't want to exert any more than

2547

04:50:45,350 --> 04:50:44,040

about seven pounds into the High Gain

2548

04:50:47,690 --> 04:50:45,360

antenna

2549

04:50:50,030 --> 04:50:47,700

we want to minimize loads on the low

2550

04:50:51,708 --> 04:50:50,040

gain antenna and once we open it up we

2551
04:50:54,050 --> 04:50:51,718
want to avoid avoid the white paint on

2552
04:50:57,650 --> 04:50:54,060
the rfg and minimize loading into the

2553
04:50:57,660 --> 04:51:06,650
coffee

2554
04:51:06,660 --> 04:51:13,128
that's enough

2555
04:51:19,128 --> 04:51:15,650
Target Factor again and trust it on

2556
04:51:23,390 --> 04:51:21,288
as our space Walkers Begin work on

2557
04:51:25,730 --> 04:51:23,400
removing the radio frequency group as

2558
04:51:27,110 --> 04:51:25,740
part of the s-band antenna if you look

2559
04:51:35,570 --> 04:51:27,120
in the background at beautiful Earth

2560
04:51:39,350 --> 04:51:37,670
until time once you get on there or once

2561
04:51:40,850 --> 04:51:39,360
you get that on there you can kind of

2562
04:51:43,850 --> 04:51:40,860
put your hands on the clam shell and

2563
04:51:45,530 --> 04:51:43,860

assess how much it moves on the antenna

2564

04:51:47,448 --> 04:51:45,540

itself this will be where Steve is

2565

04:51:51,350 --> 04:51:47,458

holding the rfg would be faded into the

2566

04:51:51,360 --> 04:52:02,510

this

2567

04:52:02,520 --> 04:52:06,948

weekend

2568

04:52:06,958 --> 04:52:11,448

Maybe

2569

04:52:22,070 --> 04:52:13,310

okay that's fine

2570

04:52:29,510 --> 04:52:24,288

I think I think you need to touch it

2571

04:52:34,070 --> 04:52:31,430

and stay by your left hand there's kind

2572

04:52:35,810 --> 04:52:34,080

of a velcro seam along the rfg you can

2573

04:52:51,470 --> 04:52:35,820

open that up uh getting ready to peel it

2574

04:52:54,708 --> 04:52:53,208

all right make adjust the last two

2575

04:52:57,770 --> 04:52:54,718

quarter turns there

2576

04:53:06,890 --> 04:53:00,430

you'll do that

2577

04:53:10,910 --> 04:53:08,628

and Sultan your next step you can

2578

04:53:12,410 --> 04:53:10,920

retrieve the Eva scissors from the crew

2579

04:53:15,830 --> 04:53:12,420

lock bag one and we'll be cutting the

2580

04:53:21,708 --> 04:53:19,190

all right coffee and unlock and Steve

2581

04:53:32,110 --> 04:53:21,718

will have you stand by on the mli until

2582

04:53:37,128 --> 04:53:35,628

as we get that to mli open reminder to

2583

04:53:39,970 --> 04:53:37,138

those of you that we've seen some mmod

2584

04:53:42,948 --> 04:53:39,980

strikes on the rfg and so we want to

2585

04:53:46,250 --> 04:53:42,958

minimize touching any potential in my

2586

04:53:49,128 --> 04:53:46,260

booty strike areas and that Z93 paint

2587

04:53:49,138 --> 04:53:52,788

okay let me ask

2588

04:53:56,270 --> 04:53:54,050

oh

2589

04:53:58,190 --> 04:53:56,280

let me know my uh if you are sending

2590

04:53:59,530 --> 04:53:58,200

enough feature on Twitter

2591

04:54:05,570 --> 04:53:59,540

but

2592

04:54:05,580 --> 04:54:18,590

and I think I'm there

2593

04:54:18,600 --> 04:54:22,850

okay I have my scissors

2594

04:54:22,860 --> 04:54:25,430

hand

2595

04:54:25,440 --> 04:54:28,730

and

2596

04:54:28,740 --> 04:54:36,128

assist my location for the cut

2597

04:54:40,368 --> 04:54:38,570

copy Sultan and uh when you're at the

2598

04:54:42,708 --> 04:54:40,378

clam show can you give us any words on

2599

04:54:46,730 --> 04:54:42,718

how snug the clamshell is on the rfg

2600

04:54:53,390 --> 04:54:50,150

is high and uh

2601
04:54:55,550 --> 04:54:53,400
I don't think it's uh like a proper

2602
04:54:58,250 --> 04:54:55,560
grabbing point but it's definitely close

2603
04:54:59,270 --> 04:54:58,260
with the wire size best effort on his

2604
04:55:01,368 --> 04:54:59,280
side

2605
04:55:05,030 --> 04:55:01,378
but it is uh

2606
04:55:09,590 --> 04:55:05,040
rotating if I if I do

2607
04:55:14,750 --> 04:55:12,050
okay where's that then Sultan we are go

2608
04:55:16,610 --> 04:55:14,760
for you to cut the mli strap nearest the

2609
04:55:21,110 --> 04:55:16,620
clamshell that connects the clam shell

2610
04:55:21,120 --> 04:55:32,990
across near the clamshell

2611
04:55:37,368 --> 04:55:34,430
the first step in removing the radio

2612
04:55:38,750 --> 04:55:37,378
frequency group is to remove the mli the

2613
04:55:43,430 --> 04:55:38,760

multi-layer insulation that has

2614

04:55:48,070 --> 04:55:46,368

the rfg was not designed to be retrieved

2615

04:55:50,510 --> 04:55:48,080

during an Eva

2616

04:55:55,270 --> 04:55:50,520

that you did get the small end of the

2617

04:56:02,030 --> 04:55:58,670

it was the large truck is still free

2618

04:56:06,350 --> 04:56:03,650

okay copy yeah the small hook on the

2619

04:56:08,448 --> 04:56:06,360

handrail and then uh we have a request

2620

04:56:14,270 --> 04:56:08,458

for you to close these em uses or the

2621

04:56:18,050 --> 04:56:16,070

okay I'm ready to use them

2622

04:56:21,890 --> 04:56:18,060

okay we are going to cut that mli and

2623

04:56:21,900 --> 04:57:24,470

coffee

2624

04:57:31,128 --> 04:57:26,510

we are back with you on voice waiting on

2625

04:57:35,990 --> 04:57:34,490

no problem and the mli is cut

2626

04:57:37,730 --> 04:57:36,000

for uh

2627

04:57:41,270 --> 04:57:37,740

rewards on that

2628

04:57:43,730 --> 04:57:41,280

it is God and without God not only did

2629

04:57:47,570 --> 04:57:43,740

you own the

2630

04:57:49,250 --> 04:57:47,580

sides it's a small slab on these

2631

04:57:51,708 --> 04:57:49,260

um

2632

04:57:53,628 --> 04:57:51,718

show all right copy you can store the

2633

04:57:55,010 --> 04:57:53,638

EVS scissors in the crew lock bag and I

2634

04:57:56,628 --> 04:57:55,020

hope that was fun we rarely get to cut

2635

04:57:58,310 --> 04:57:56,638

things on Eva

2636

04:58:01,010 --> 04:57:58,320

and your next step is going to be

2637

04:58:03,350 --> 04:58:01,020

removing the mli tent uh and attaching

2638

04:58:05,690 --> 04:58:03,360

it to that large red that you have

2639

04:58:06,890 --> 04:58:05,700

staged

2640

04:58:08,090 --> 04:58:06,900

right

2641

04:58:10,128 --> 04:58:08,100

Steve we're going to have you move

2642

04:58:11,510 --> 04:58:10,138

toward the arm and have you start

2643

04:58:14,990 --> 04:58:11,520

performing your safety tether support

2644

04:58:18,350 --> 04:58:17,150

okay let's talk you through that real

2645

04:58:21,590 --> 04:58:18,360

quick

2646

04:58:23,208 --> 04:58:21,600

right yes so for the safety tether swap

2647

04:58:26,150 --> 04:58:23,218

you want to make sure your waste tether

2648

04:58:40,128 --> 04:58:28,070

and your first step is to lock your

2649

04:58:44,570 --> 04:58:42,410

copy green as luck check that your green

2650

04:58:48,110 --> 04:58:44,580

hook gate is closed and the hook is

2651
04:58:55,490 --> 04:58:52,730
my green update is closed and locked

2652
04:59:00,650 --> 04:58:55,500
you can now relocate your yellow hook to

2653
04:59:06,470 --> 04:59:03,470
okay going on to the yellow Orchestra

2654
04:59:08,090 --> 04:59:06,480
for the ssrms we'll put it on these

2655
04:59:11,390 --> 04:59:08,100
forward

2656
04:59:17,090 --> 04:59:14,750
that's good close slider locked

2657
04:59:19,368 --> 04:59:17,100
copy gate closed hook locked on the

2658
04:59:21,170 --> 04:59:19,378
yellow on the handrail tether Point your

2659
04:59:26,750 --> 04:59:21,180
next step is to attach your green hook

2660
04:59:26,760 --> 04:59:50,330
hey zero one one

2661
04:59:57,110 --> 04:59:52,970
foreign

2662
05:00:02,030 --> 04:59:59,628
copy Greenhouse installed

2663
05:00:05,930 --> 05:00:02,040

copy the green hook on 8011 and you can

2664

05:00:09,590 --> 05:00:08,090

the locker

2665

05:00:11,390 --> 05:00:09,600

and when you do that you want to verify

2666

05:00:23,868 --> 05:00:11,400

that the tether reel and the cable are

2667

05:00:27,770 --> 05:00:25,788

yeah I will be probably one if I get the

2668

05:00:35,628 --> 05:00:27,780

uh

2669

05:00:35,638 --> 05:00:50,930

ah

2670

05:00:50,940 --> 05:01:04,128

all right

2671

05:01:04,138 --> 05:01:36,630

foreign

2672

05:01:36,640 --> 05:01:48,170

[Music]

2673

05:01:54,650 --> 05:01:50,990

they're under my Red Hook

2674

05:01:59,990 --> 05:01:56,750

crafty room extender

2675

05:02:01,610 --> 05:02:00,000

and put it on the other side of the

2676

05:02:02,930 --> 05:02:01,620

green hook gosh I just don't do the

2677

05:02:04,788 --> 05:02:02,940

greenhouse never mind

2678

05:02:06,708 --> 05:02:04,798

I'll be the greenhouse again put on the

2679

05:02:08,810 --> 05:02:06,718

other side of my Red Hook yeah that's

2680

05:02:10,610 --> 05:02:08,820

where we're just getting to if we leave

2681

05:02:13,310 --> 05:02:10,620

your load pass and then we can just redo

2682

05:02:17,030 --> 05:02:15,410

yeah

2683

05:02:23,090 --> 05:02:17,040

because I have to think a little bit

2684

05:02:29,390 --> 05:02:26,208

and with that Steve we uh that completes

2685

05:02:31,850 --> 05:02:29,400

the safety tether swap procedure

2686

05:02:34,070 --> 05:02:31,860

so you can just verify your load path is

2687

05:02:36,708 --> 05:02:34,080

and is clear your next step is going to

2688

05:02:38,270 --> 05:02:36,718

be to Ingress the apfr

2689

05:02:40,430 --> 05:02:38,280

Sultan we see you opening and

2690

05:02:41,810 --> 05:02:40,440

restraining the tent mli

2691

05:02:47,628 --> 05:02:41,820

and let us know when you have that on

2692

05:02:54,350 --> 05:02:51,590

it is attached already to the local Loop

2693

05:02:58,610 --> 05:02:54,360

sort of work this mode in a low profile

2694

05:03:00,830 --> 05:02:58,620

for the removal on the nzgl operation

2695

05:03:03,530 --> 05:03:00,840

copy good words

2696

05:03:05,628 --> 05:03:03,540

would also take a Facebook

2697

05:03:16,970 --> 05:03:05,638

base of the white paint on the rfg from

2698

05:03:29,270 --> 05:03:19,010

all right let's feel much better about

2699

05:03:35,090 --> 05:03:31,850

as Steve Bowen prepares to Ingress the

2700

05:03:37,070 --> 05:03:35,100

articulating portable foot restraint

2701

05:03:39,288 --> 05:03:37,080

Sultan aniadi is removing some

2702

05:03:41,868 --> 05:03:39,298

multi-layer insulation from the s-band

2703

05:03:46,128 --> 05:03:43,550

this will allow them to more easily

2704

05:03:47,750 --> 05:03:46,138

access and remove the rfg the radio

2705

05:03:49,970 --> 05:03:47,760

frequency Group which will be taken

2706

05:03:51,650 --> 05:03:49,980

inside the space station for Steve as

2707

05:03:52,970 --> 05:03:51,660

you get to the Ingress you're going to

2708

05:03:55,910 --> 05:03:52,980

make sure your tools and tethers are

2709

05:03:57,410 --> 05:03:55,920

clear that the Ingress Aid is stowed you

2710

05:04:04,670 --> 05:03:57,420

can attach your waste tether to the

2711

05:04:09,650 --> 05:04:07,128

I will detach myself from

2712

05:04:16,250 --> 05:04:09,660

esp2

2713

05:04:20,690 --> 05:04:18,708

an when near

2714

05:04:22,610 --> 05:04:20,700

section we'll take any words on any

2715

05:04:51,890 --> 05:04:22,620

damage or flaking that you may see and

2716

05:04:51,900 --> 05:05:12,190

foreign

2717

05:05:23,948 --> 05:05:19,600

[Music]

2718

05:05:27,890 --> 05:05:23,958

connection

2719

05:05:31,368 --> 05:05:27,900

I do see just smaller ones all around I

2720

05:05:34,850 --> 05:05:31,378

don't know if you see my my channel

2721

05:05:38,150 --> 05:05:36,708

we see a little bit in your camera if

2722

05:05:39,708 --> 05:05:38,160

you look up a little bit more we've got

2723

05:05:44,050 --> 05:05:39,718

a good view of the rest of the box from

2724

05:05:49,788 --> 05:05:46,910

yeah that's a good section we appreciate

2725

05:05:52,190 --> 05:05:49,798

that Sultan um so you're now go to dmate

2726

05:05:53,690 --> 05:05:52,200

the Sasa cables from the rfg and give us

2727

05:05:57,110 --> 05:05:53,700

an inspection that's gonna be the P9

2728

05:05:59,628 --> 05:05:57,120

from the j9 and the P1 from the J1

2729

05:06:02,930 --> 05:05:59,638

and then you're going to get the Caps

2730

05:06:07,190 --> 05:06:02,940

from the crew lock bag and cap both ends

2731

05:06:16,730 --> 05:06:11,890

from P9 and then uh J1 from P1 thanks

2732

05:06:20,930 --> 05:06:18,368

I think I'm

2733

05:06:23,510 --> 05:06:20,940

interested if you follow my card is a

2734

05:06:26,750 --> 05:06:23,520

clear of PSP

2735

05:06:29,150 --> 05:06:26,760

and I think I'm ready to go to the

2736

05:06:31,850 --> 05:06:29,160

uh

2737

05:06:34,490 --> 05:06:31,860

brutal position yep and from Steve we'll

2738

05:06:36,410 --> 05:06:34,500

get a 11 and a half check from you but

2739

05:06:37,970 --> 05:06:36,420

before we take the count for robo uh

2740

05:06:39,890 --> 05:06:37,980

Sultan are you good for your next couple

2741

05:06:41,330 --> 05:06:39,900

steps you're going to demate those

2742

05:06:42,948 --> 05:06:41,340

cables you're going to retrieve the cap

2743

05:06:44,150 --> 05:06:42,958

keeper from the crew lock bag and then

2744

05:06:46,910 --> 05:06:44,160

you're going to put the caps and the

2745

05:06:58,550 --> 05:06:46,920

plugs on those cable ends and uh both

2746

05:07:03,050 --> 05:07:00,310

ever

2747

05:07:04,970 --> 05:07:03,060

forward I'm sorry put it backwards

2748

05:07:06,350 --> 05:07:04,980

double centered and I think the other

2749

05:07:08,750 --> 05:07:06,360

one

2750

05:07:16,490 --> 05:07:08,760

be a quick inspection then you confirm

2751
05:07:21,650 --> 05:07:18,650
and Steve if you want to give a double

2752
05:07:23,150 --> 05:07:21,660
check on your feet on the apfr we

2753
05:07:27,350 --> 05:07:23,160
thought we might have seen a little bit

2754
05:07:32,208 --> 05:07:29,350
Corrections

2755
05:07:36,050 --> 05:07:32,218
checking it yeah we're trying to play

2756
05:07:43,670 --> 05:07:40,690
okay one B1 good pins

2757
05:07:46,368 --> 05:07:43,680
ready to cover all of these

2758
05:07:47,690 --> 05:07:46,378
okay Sultan we you are going to uh get

2759
05:07:50,810 --> 05:07:47,700
all the caps and we'll get words on

2760
05:07:53,448 --> 05:07:50,820
those after the uh after the art we move

2761
05:08:00,170 --> 05:07:53,458
the arm and so for Steve did you get

2762
05:08:04,850 --> 05:08:02,330
all right Steve you can uh you have the

2763
05:08:07,628 --> 05:08:04,860

comms to give Frank a go to GK to the

2764

05:08:09,708 --> 05:08:07,638

rfg retrieval position

2765

05:08:16,550 --> 05:08:09,718

we're trying to get my right foot back

2766

05:08:16,560 --> 05:08:22,990

[Music]

2767

05:08:28,610 --> 05:08:26,390

that field trip

2768

05:08:31,250 --> 05:08:28,620

okay Frank

2769

05:08:34,070 --> 05:08:31,260

I need to go station forward

2770

05:08:36,770 --> 05:08:34,080

30 centimeters I gave you and then you

2771

05:08:38,870 --> 05:08:36,780

can repeat the ATV

2772

05:08:40,208 --> 05:08:38,880

[Music]

2773

05:08:42,590 --> 05:08:40,218

[Applause]

2774

05:08:45,350 --> 05:08:42,600

removal position

2775

05:08:47,510 --> 05:08:45,360

we copy brakes are coming off to begin

2776
05:08:49,368 --> 05:08:47,520
GPA to published we'll start with about

2777
05:08:51,890 --> 05:08:49,378
30 centimeters stationed forward

2778
05:08:53,930 --> 05:08:51,900
followed up with 70 centimeters

2779
05:08:55,970 --> 05:08:53,940
stationed starboard starting motion

2780
05:09:03,110 --> 05:08:55,980
station forward that sounds good thank

2781
05:09:06,830 --> 05:09:05,030
that's the voice of NASA astronaut Woody

2782
05:09:09,410 --> 05:09:06,840
hoberg who will be controlling the

2783
05:09:11,810 --> 05:09:09,420
candid arm too as he begins to relocate

2784
05:09:13,910 --> 05:09:11,820
Steve Bowen on the end of the Canon arm

2785
05:09:38,930 --> 05:09:13,920
too it'll put him in a proper position

2786
05:09:43,550 --> 05:09:41,330
Sultan in the background has a d mated

2787
05:09:45,708 --> 05:09:43,560
two cables from the radio frequency

2788
05:09:47,570 --> 05:09:45,718

group and is installing caps to protect

2789

05:09:51,050 --> 05:09:47,580

them for future use

2790

05:09:54,230 --> 05:09:51,060

PDA for uh RT cleanup appointment

2791

05:09:56,930 --> 05:09:54,240

yeah we need the team to review plate

2792

05:09:59,208 --> 05:09:56,940

note 9 free Bravo

2793

05:10:02,390 --> 05:09:59,218

should I attach them this is needed for

2794

05:10:11,470 --> 05:10:02,400

the rfg cleanup HD video

2795

05:10:18,050 --> 05:10:13,670

we're starting motion station forward

2796

05:10:18,060 --> 05:10:26,930

so I'm ready

2797

05:10:26,940 --> 05:10:42,948

motions

2798

05:10:48,410 --> 05:10:44,990

Chris is starting motion station

2799

05:10:53,390 --> 05:10:48,420

starboard for 7-0 centimeters that was

2800

05:10:53,400 --> 05:10:58,070

stop motion

2801
05:10:58,080 --> 05:11:07,550
okay let me take a look

2802
05:11:07,560 --> 05:11:15,430
foreign

2803
05:11:17,900 --> 05:11:16,550
[Music]

2804
05:11:22,550 --> 05:11:17,910
centimeters

2805
05:11:22,560 --> 05:11:27,410
station

2806
05:11:36,770 --> 05:11:29,330
[Music]

2807
05:11:36,780 --> 05:11:40,128
stationary

2808
05:11:40,138 --> 05:11:43,250
later

2809
05:11:48,170 --> 05:11:46,128
okay Steve we copy it at 20 more

2810
05:11:50,868 --> 05:11:48,180
centimeters continue station starboard

2811
05:11:54,890 --> 05:11:50,878
and then 20 centimeters stationed meter

2812
05:11:58,190 --> 05:11:56,330
all right starting motion station

2813
05:12:00,590 --> 05:11:58,200

starboard

2814

05:12:17,650 --> 05:12:00,600

motion

2815

05:12:26,750 --> 05:12:20,090

genius I'm sorry I had that backwards

2816

05:12:32,868 --> 05:12:29,990

okay see if we copy uh station Zenith

2817

05:12:40,970 --> 05:12:32,878

that should be towards your beach and

2818

05:12:40,980 --> 05:12:49,150

starting motion stations again

2819

05:12:49,160 --> 05:12:53,330

stop motion there

2820

05:13:04,190 --> 05:12:57,128

yeah that's a great position thank you

2821

05:13:08,208 --> 05:13:06,410

see if brakes are on your go for rfg

2822

05:13:12,650 --> 05:13:08,218

boat release

2823

05:13:17,690 --> 05:13:15,350

and we copied that the brakes are back

2824

05:13:19,368 --> 05:13:17,700

on so Steve's uh big picture when Sultan

2825

05:13:21,470 --> 05:13:19,378

is done installing that caps he's going

2826

05:13:22,970 --> 05:13:21,480

to hand you a large small red

2827

05:13:25,310 --> 05:13:22,980

and you're going to put that large small

2828

05:13:35,570 --> 05:13:25,320

rat onto the rfg and then you're going

2829

05:13:40,788 --> 05:13:38,150

what do you put for timeline

2830

05:13:46,610 --> 05:13:40,798

some acronym breakdown for you

2831

05:13:50,448 --> 05:13:48,530

he will be attaching a retractable

2832

05:13:52,250 --> 05:13:50,458

equipment tether to the radio frequency

2833

05:13:54,288 --> 05:13:52,260

group since that will soon be released

2834

05:13:56,930 --> 05:13:54,298

from the space station

2835

05:14:04,368 --> 05:13:56,940

he'll be using a PGT or pistol grip tool

2836

05:14:15,110 --> 05:14:06,410

after those have been released he will

2837

05:14:20,750 --> 05:14:17,930

Sultan al-nayadi is meanwhile finishing

2838

05:14:23,810 --> 05:14:20,760

up removing some of those cables from

2839

05:14:25,910 --> 05:14:23,820

the s-band to the rfg itself and

2840

05:14:27,770 --> 05:14:25,920

installing caps as those will be

2841

05:14:30,410 --> 05:14:27,780

reinstalled in the future once the rfg

2842

05:14:32,930 --> 05:14:30,420

is replaced

2843

05:14:34,490 --> 05:14:32,940

still finishing the last

2844

05:14:36,410 --> 05:14:34,500

couple

2845

05:14:42,050 --> 05:14:36,420

reason it's not

2846

05:14:42,060 --> 05:14:50,330

wake happy

2847

05:14:56,990 --> 05:14:54,590

band One card is installed on J1

2848

05:14:59,810 --> 05:14:57,000

the other one yes

2849

05:15:06,650 --> 05:14:59,820

looking for the better alignment here

2850

05:15:10,190 --> 05:15:08,510

and Sultan if it's uh if it gives you a

2851
05:15:12,230 --> 05:15:10,200
little more work space you can take the

2852
05:15:30,770 --> 05:15:12,240
hook off of the cap that you have

2853
05:15:36,890 --> 05:15:32,868
full test

2854
05:15:40,910 --> 05:15:38,868
nicely done so you can release those

2855
05:15:43,550 --> 05:15:40,920
hooks and now Caddy's going to go back

2856
05:15:45,890 --> 05:15:43,560
to the crew lock bag

2857
05:15:48,050 --> 05:15:45,900
and then when your the cool lock bag you

2858
05:15:49,368 --> 05:15:48,060
can pick up two large small Ritz and

2859
05:15:52,070 --> 05:15:49,378
you'll be handing one of those over to

2860
05:15:54,708 --> 05:15:52,080
Steve and we can have Steve start to

2861
05:15:59,430 --> 05:15:54,718
drive bolts while Sultan continues to

2862
05:15:59,440 --> 05:16:25,070
[Applause]

2863
05:16:29,448 --> 05:16:26,890

foreign

2864

05:16:31,788 --> 05:16:29,458

just a reminder for you

2865

05:16:33,530 --> 05:16:31,798

um that you do have the uh the page in

2866

05:16:35,510 --> 05:16:33,540

your cuff if you want to take a look at

2867

05:16:37,610 --> 05:16:35,520

the orientation but in general if you

2868

05:16:39,830 --> 05:16:37,620

look at the bolts the middle jacking

2869

05:16:42,350 --> 05:16:39,840

bolt is Bolt e

2870

05:16:44,448 --> 05:16:42,360

and then just to the left of that is f

2871

05:16:45,830 --> 05:16:44,458

and f is going to be the first one that

2872

05:16:48,410 --> 05:16:45,840

you do and then you're going to go

2873

05:16:57,590 --> 05:16:48,420

basically one left one right two left

2874

05:17:01,550 --> 05:16:59,690

yep that is good and then hopefully

2875

05:17:04,070 --> 05:17:01,560

won't need to know this but if you look

2876

05:17:05,810 --> 05:17:04,080

to the left of the leftmost bolt and to

2877

05:17:08,030 --> 05:17:05,820

the right of the rightmost bolt is where

2878

05:17:10,490 --> 05:17:08,040

you'd see the spring plungers kind of

2879

05:17:13,250 --> 05:17:10,500

perpendicular to the bolts pretty small

2880

05:17:15,110 --> 05:17:13,260

little spring plungers

2881

05:18:28,490 --> 05:17:15,120

those guys

2882

05:18:31,788 --> 05:18:30,830

and one more orientation note for you

2883

05:18:34,190 --> 05:18:31,798

Steve

2884

05:18:35,150 --> 05:18:34,200

um when you go to remove it I know we

2885

05:18:37,250 --> 05:18:35,160

talked about this a lot in the

2886

05:18:39,170 --> 05:18:37,260

conferences but the motion that you'll

2887

05:18:40,550 --> 05:18:39,180

want to do is kind of a yawning motion

2888

05:18:42,050 --> 05:18:40,560

where you would push slightly with your

2889

05:18:44,590 --> 05:18:42,060

right and pull with your left and then

2890

05:18:51,708 --> 05:18:44,600

vice versa so just a real slight yaw

2891

05:18:55,190 --> 05:18:52,850

stupid

2892

05:18:56,448 --> 05:18:55,200

physically flat don't lift it till it

2893

05:18:58,430 --> 05:18:56,458

clears

2894

05:19:00,590 --> 05:18:58,440

and uh we should be able to pull it

2895

05:19:03,770 --> 05:19:00,600

safely straight back out

2896

05:19:08,030 --> 05:19:03,780

yep we agree with those words

2897

05:19:28,010 --> 05:19:08,040

I think I got it off oh here

2898

05:19:32,690 --> 05:19:30,530

I think you're right Steve

2899

05:20:07,930 --> 05:19:32,700

yep just waiting on the

2900

05:20:12,830 --> 05:20:10,788

this view from NASA astronaut Steve

2901
05:20:15,890 --> 05:20:12,840
Bowen's helmet camera again this is

2902
05:20:18,050 --> 05:20:15,900
Bowen's eighth spacewalk

2903
05:20:20,090 --> 05:20:18,060
using his handheld camera to take some

2904
05:20:22,670 --> 05:20:20,100
photos of the hardware and maybe even

2905
05:20:25,070 --> 05:20:22,680
earth below the International Space

2906
05:20:39,830 --> 05:20:25,080
Station is currently flying at 260

2907
05:21:00,230 --> 05:20:41,868
they have the small hook

2908
05:21:05,570 --> 05:21:01,788
thank you

2909
05:21:08,690 --> 05:21:05,580
the perfect is going on the rfg

2910
05:21:11,570 --> 05:21:08,700
back and forth we see that the large

2911
05:21:13,190 --> 05:21:11,580
small is on the rfg so for sultan you

2912
05:21:15,110 --> 05:21:13,200
can move back to the crew lock bag and

2913
05:21:17,448 --> 05:21:15,120

actually we need a uh actually not quite

2914

05:21:19,550 --> 05:21:17,458

yet so we're going to have you secure

2915

05:21:21,590 --> 05:21:19,560

the stanchion cables P1 and P9 to the

2916

05:21:23,208 --> 05:21:21,600

stanchion with a wire tie and then you

2917

05:21:27,530 --> 05:21:23,218

can Stow the cat keeper there and crew

2918

05:21:32,448 --> 05:21:30,050

and for Steve we are ready to drive the

2919

05:21:34,610 --> 05:21:32,458

bolts uh just a reminder around the rfg

2920

05:21:39,948 --> 05:21:34,620

to watch for Sharp edges your PGT

2921

05:21:39,958 --> 05:21:49,010

uh

2922

05:21:49,020 --> 05:21:52,720

[Applause]

2923

05:21:52,730 --> 05:22:03,430

[Music]

2924

05:22:09,288 --> 05:22:05,510

[Applause]

2925

05:22:13,910 --> 05:22:11,868

7 volts

2926

05:22:16,070 --> 05:22:13,920

celebrate

2927

05:22:19,868 --> 05:22:16,080

41.1

2928

05:22:23,868 --> 05:22:19,878

7 and we're looking for what now

2929

05:22:27,350 --> 05:22:25,970

bottle one

2930

05:22:33,910 --> 05:22:27,360

o'clock

2931

05:22:39,170 --> 05:22:36,650

the fifth Bolt from the left of the

2932

05:22:41,628 --> 05:22:39,180

fourth pull from the right

2933

05:22:44,628 --> 05:22:41,638

yep so it'll be the fourth Bolt from the

2934

05:22:46,128 --> 05:22:44,638

left will be our first one so F1 it's

2935

05:22:49,010 --> 05:22:46,138

going to be one to the left of the

2936

05:22:52,250 --> 05:22:51,410

okay so remembered a through a from the

2937

05:22:54,830 --> 05:22:52,260

right

2938

05:22:56,510 --> 05:22:54,840

okay one to the left of the jackable

2939

05:22:58,368 --> 05:22:56,520

and I'm starting a Hermit card that's

2940

05:23:02,150 --> 05:22:58,378

correct and you should expect uh about

2941

05:23:07,430 --> 05:23:04,010

okay that didn't work

2942

05:23:12,350 --> 05:23:09,770

again Steve Bowen will release eight of

2943

05:23:14,750 --> 05:23:12,360

these structural bolts

2944

05:23:19,550 --> 05:23:14,760

he's using the PGT or the pistol grip

2945

05:23:22,670 --> 05:23:21,170

and it helps for him to be in the

2946

05:23:25,070 --> 05:23:22,680

articulating portable foot restraint

2947

05:23:28,070 --> 05:23:25,080

that's mounted to the Canada arm 2 so

2948

05:23:34,250 --> 05:23:28,080

that he has some uh covered out it is

2949

05:23:37,730 --> 05:23:35,448

um

2950

05:23:39,948 --> 05:23:37,740

uh foxtrot

2951
05:23:44,030 --> 05:23:39,958
I'm ready for Delta

2952
05:23:44,040 --> 05:23:47,948
that was

2953
05:23:55,270 --> 05:23:50,208
12.0 turns

2954
05:24:00,530 --> 05:23:59,270
.2 going for Delta

2955
05:24:02,628 --> 05:24:00,540
concur

2956
05:24:05,208 --> 05:24:02,638
having stable footing having stable

2957
05:24:20,448 --> 05:24:05,218
footing during these uh turns keeps

2958
05:24:27,470 --> 05:24:22,070
all right

2959
05:24:29,470 --> 05:24:27,480
that was 12.0 turns as well

2960
05:24:32,628 --> 05:24:29,480
happy 12.0

2961
05:24:35,448 --> 05:24:32,638
Delta so you go for Block golf third

2962
05:24:35,458 --> 05:24:57,050
start from the left and work

2963
05:25:02,510 --> 05:25:00,230

I feel like it's clear as well

2964

05:25:06,410 --> 05:25:02,520

and another 12 turns

2965

05:25:10,788 --> 05:25:08,690

Kathy another 12 turns for black golf

2966

05:25:38,330 --> 05:25:10,798

your next will be block Charlie third

2967

05:25:45,948 --> 05:25:41,750

there we go 10.4 terms there

2968

05:25:48,708 --> 05:25:45,958

entirely and now I'm over to hotel

2969

05:25:50,030 --> 05:25:48,718

we Concur and copy 10.4 and Charlie in

2970

05:26:20,750 --> 05:25:50,040

the hotel

2971

05:26:26,270 --> 05:26:23,330

bottles

2972

05:26:30,110 --> 05:26:26,280

good words gold Bravo and we copied 10.5

2973

05:26:34,610 --> 05:26:32,330

we're now four hours since the start of

2974

05:26:37,250 --> 05:26:34,620

today's space walk Steve Bowen now

2975

05:26:40,128 --> 05:26:37,260

helping release eight bolts

2976

05:26:42,470 --> 05:26:40,138

that will help remove the rfg the radio

2977

05:26:50,150 --> 05:26:42,480

frequency group ncgl cables you want

2978

05:26:53,868 --> 05:26:51,948

yeah Sultan you can go anywhere onto

2979

05:26:58,490 --> 05:26:53,878

that stanchion so that they're secure

2980

05:26:58,500 --> 05:27:02,930

and 12 turns

2981

05:27:02,940 --> 05:27:06,410

and now

2982

05:27:06,420 --> 05:27:11,690

India

2983

05:27:11,700 --> 05:27:19,730

and

2984

05:27:23,150 --> 05:27:21,890

Sultan just to clarify my last we want

2985

05:27:26,030 --> 05:27:23,160

those cables tacked down to anywhere

2986

05:27:30,770 --> 05:27:26,040

that's on the same structure as the uh

2987

05:27:37,490 --> 05:27:32,930

understood is going to be on the same

2988

05:27:37,500 --> 05:27:45,650

copy

2989

05:27:50,080 --> 05:27:47,090

I'm sorry not me sorry about that

2990

05:27:59,868 --> 05:27:50,090

somewhere around 12 30. all right

2991

05:27:59,878 --> 05:28:26,390

and we copy that you're on to Alpha

2992

05:28:32,510 --> 05:28:28,788

13 turns there

2993

05:28:41,090 --> 05:28:34,430

um

2994

05:28:46,190 --> 05:28:43,490

I forgot which one's right

2995

05:29:21,368 --> 05:28:46,200

oh yeah and um

2996

05:29:27,590 --> 05:29:25,850

I think I'm ready for Echo

2997

05:29:33,170 --> 05:29:27,600

okay and we're gonna stand by one and

2998

05:29:38,570 --> 05:29:35,510

Bowen has released all eight structural

2999

05:29:40,670 --> 05:29:38,580

Bolts from the radio frequency group

3000

05:29:42,770 --> 05:29:40,680

and so Sultan we'd like you to move into

3001

05:29:44,090 --> 05:29:42,780

position to see the outside of the rfg

3002

05:29:45,770 --> 05:29:44,100

during removal

3003

05:29:47,868 --> 05:29:45,780

reminder for both of you is that after

3004

05:29:49,610 --> 05:29:47,878

the center jacking bolt is released we

3005

05:29:51,050 --> 05:29:49,620

only want to pull the rfg towards Steve

3006

05:29:53,090 --> 05:29:51,060

not up

3007

05:29:55,128 --> 05:29:53,100

and to be aware of sharp edges on the

3008

05:29:59,390 --> 05:29:55,138

stanchion mounting plate and the rfg

3009

05:30:03,170 --> 05:30:02,030

I thought I say coffee on and uh just

3010

05:30:07,250 --> 05:30:03,180

give me

3011

05:30:07,260 --> 05:30:19,430

okay um

3012

05:30:23,030 --> 05:30:21,530

this view from Sultan on the Audi's

3013

05:30:27,230 --> 05:30:23,040

helmet camera who's moving into position

3014

05:30:30,288 --> 05:30:27,240

to help with the removal of the rfg

3015

05:30:33,470 --> 05:30:30,298

Bowen will remove one more bolt known as

3016

05:30:41,030 --> 05:30:35,390

the hardware would then only be in soft

3017

05:30:46,970 --> 05:30:44,270

and if you're okay guess if they're okay

3018

05:30:50,628 --> 05:30:46,980

with this I'd like to move the big hook

3019

05:30:52,730 --> 05:30:50,638

my right hand side uh just to make it

3020

05:30:56,208 --> 05:30:52,740

easier when I go to grab

3021

05:30:56,218 --> 05:31:04,910

um

3022

05:31:08,030 --> 05:31:06,650

Sultan for your positioning we

3023

05:31:10,310 --> 05:31:08,040

specifically want you to look at the F

3024

05:31:14,270 --> 05:31:10,320

side of the rfg where that soft dot

3025

05:31:19,490 --> 05:31:16,730

thanks

3026

05:31:22,368 --> 05:31:19,500

contribution myself here

3027

05:31:24,288 --> 05:31:22,378

in a second no worries and we will have

3028

05:31:34,368 --> 05:31:24,298

time to tack down those cables uh once

3029

05:31:40,368 --> 05:31:36,470

okay if you ever have the app's view of

3030

05:31:43,430 --> 05:31:40,378

the rfg you are going to release

3031

05:31:45,410 --> 05:31:43,440

okay and we Concur and Steve just one

3032

05:31:46,788 --> 05:31:45,420

note you're about uh eight minutes to a

3033

05:31:50,390 --> 05:31:46,798

sunset if you need to reconfigure

3034

05:31:55,430 --> 05:31:52,368

I think I'll be okay and uh what about

3035

05:32:00,110 --> 05:31:57,770

okay so for releasing the rfg center

3036

05:32:01,730 --> 05:32:00,120

jacking bolts um you are go to release

3037

05:32:03,288 --> 05:32:01,740

that it's the same settings Bravo One

3038

05:32:05,750 --> 05:32:03,298

counterclockwise two and you're

3039

05:32:08,948 --> 05:32:05,760

expecting about 24.5 to 30 and a half

3040

05:32:18,830 --> 05:32:11,930

through 24 to 30.

3041

05:32:18,840 --> 05:32:29,150

all right good turns

3042

05:32:34,550 --> 05:32:31,430

it's worked out at

3043

05:32:36,530 --> 05:32:34,560

uh 4.64 turns

3044

05:32:38,690 --> 05:32:36,540

at 12.

3045

05:33:06,230 --> 05:32:38,700

1 pounds

3046

05:33:06,240 --> 05:33:25,250

okay

3047

05:33:28,490 --> 05:33:26,868

all right Steve as you can imagine this

3048

05:33:30,170 --> 05:33:28,500

puts us in a crib sheet so we are going

3049

05:33:31,670 --> 05:33:30,180

to run you through the steps here the

3050

05:33:33,288 --> 05:33:31,680

first thing we want you to do is then

3051

05:33:34,788 --> 05:33:33,298

you got to give a good call but just

3052

05:33:36,830 --> 05:33:34,798

re-verify that all of the structural

3053

05:33:38,090 --> 05:33:36,840

bolts are fully released that they're

3054

05:33:43,128 --> 05:33:38,100

and they're spring-loaded and will free

3055

05:33:48,170 --> 05:33:45,110

all right let me

3056

05:33:59,208 --> 05:33:48,180

put my GTA away now let's double check

3057

05:34:04,910 --> 05:34:01,788

okay

3058

05:34:06,350 --> 05:34:04,920

and Sultana as he drove that jacket did

3059

05:34:09,230 --> 05:34:06,360

you see any movement on the soft dot

3060

05:34:16,368 --> 05:34:12,410

negative to me it was the same and uh I

3061

05:34:18,530 --> 05:34:16,378

didn't see any parents uh promotion

3062

05:34:28,430 --> 05:34:18,540

yeah everything seems loose

3063

05:34:32,330 --> 05:34:30,470

all right and I think everything's loose

3064

05:34:34,010 --> 05:34:32,340

we've got a good spring on each one of

3065

05:34:36,890 --> 05:34:34,020

them obviously sometimes hard to tell

3066

05:34:47,810 --> 05:34:36,900

when you can't turn but they're also the

3067

05:34:51,830 --> 05:34:49,970

okay Steve so we're going to have you

3068

05:34:53,330 --> 05:34:51,840

re-verify that the socket is fully

3069

05:34:55,368 --> 05:34:53,340

engaged and we're going to reattempt a

3070

05:34:58,510 --> 05:34:55,378

release with the same settings Bravo One

3071

05:34:58,520 --> 05:35:04,910

Hey Brother one time or two

3072

05:35:10,610 --> 05:35:07,970

oh no one

3073

05:35:10,620 --> 05:35:16,190

it is fully seated

3074

05:35:22,670 --> 05:35:18,650

with a

3075

05:35:22,680 --> 05:35:40,368

we copy it torqued out standby one

3076

05:36:16,930 --> 05:35:41,810

and we're going to talk about this for

3077

05:36:21,948 --> 05:36:19,490

NASA astronaut Steve Bowen and United

3078

05:36:25,550 --> 05:36:21,958

Arab Emirates astronaut Sultan al-nayadi

3079

05:36:28,550 --> 05:36:25,560

are on their first spacewalk together

3080

05:36:30,230 --> 05:36:28,560

the fourth of the Year quite yet but

3081

05:36:31,550 --> 05:36:30,240

just for your awareness that we're

3082

05:36:32,990 --> 05:36:31,560

talking about it because with the low

3083

05:36:34,910 --> 05:36:33,000

turn count that we did get on the

3084

05:36:37,128 --> 05:36:34,920

jacking bolt tells us that it's still

3085

05:36:43,190 --> 05:36:37,138

engaged in the ass section so we're

3086

05:36:47,208 --> 05:36:45,170

the spacewalk began four hours and 10

3087

05:36:49,070 --> 05:36:47,218

minutes ago and the astronauts are on

3088

05:36:51,470 --> 05:36:49,080

their second major task which is to

3089

05:37:00,650 --> 05:36:51,480

remove the rfg the radio frequency group

3090

05:37:05,628 --> 05:37:02,750

is the computer and electronics that

3091

05:37:08,150 --> 05:37:05,638

control the s-band system

3092

05:37:10,850 --> 05:37:08,160

Bowen just released eight structurable

3093

05:37:17,990 --> 05:37:10,860

structural bolts and is working to

3094

05:37:23,510 --> 05:37:20,628

Bowen was uh

3095

05:37:25,550 --> 05:37:23,520

able to execute fewer turns than were

3096

05:37:28,628 --> 05:37:25,560

expected when using the pistol grip tool

3097

05:37:30,770 --> 05:37:28,638

have you put your PGT on Bravo One

3098

05:37:32,628 --> 05:37:30,780

clockwise too so we're going to

3099

05:37:34,788 --> 05:37:32,638

basically drive it in a little bit and

3100

05:37:36,230 --> 05:37:34,798

then reattempt a nominal release torque

3101

05:37:41,150 --> 05:37:36,240

so we're going to drive the bolt only

3102

05:37:43,610 --> 05:37:41,160

one turn on Bravo One clockwise too

3103

05:37:45,650 --> 05:37:43,620

okay Bravo One

3104

05:37:50,628 --> 05:37:45,660

clockwise too

3105

05:37:50,638 --> 05:38:05,208

good words

3106

05:38:11,030 --> 05:38:07,128

and it worked out

3107

05:38:13,670 --> 05:38:11,040

at 12.0 as well

3108

05:38:16,250 --> 05:38:13,680

and no point

3109

05:38:18,590 --> 05:38:16,260

004 turns

3110

05:38:24,890 --> 05:38:18,600

okay we understand that it only went

3111

05:38:28,250 --> 05:38:26,810

and we're about 20 seconds to hand over

3112

05:38:29,270 --> 05:38:28,260

so you might want to take a picture

3113

05:38:31,250 --> 05:38:29,280

we're gonna have to talk about this for

3114

05:39:29,650 --> 05:38:31,260

a sec

3115

05:39:34,430 --> 05:39:32,448

as we are in a satellite Handover during

3116

05:39:38,448 --> 05:39:34,440

the spacewalk teams here are

3117

05:39:40,490 --> 05:39:38,458

troubleshooting the removal of the rfg

3118

05:39:41,750 --> 05:39:40,500

the radio frequency group that Bowen is

3119

05:39:43,730 --> 05:39:41,760

working on

3120

05:39:45,650 --> 05:39:43,740

he's using the pistol grip tool to

3121

05:39:50,510 --> 05:39:45,660

remove a jacking Bolt

3122

05:39:54,590 --> 05:39:53,090

teams previously have outlined several

3123

05:39:55,910 --> 05:39:54,600

different ways they can troubleshoot

3124

05:40:08,990 --> 05:39:55,920

this so they are working through those

3125

05:41:56,330 --> 05:40:11,090

we are back with you after the Handover

3126

05:42:00,650 --> 05:41:58,128

thank you

3127

05:42:01,850 --> 05:42:00,660

and Sultan well we're waiting for Words

3128

05:42:07,070 --> 05:42:01,860

um you can go ahead and finish tacking

3129

05:42:07,080 --> 05:43:28,190

all right thanks

3130

05:43:28,200 --> 05:43:45,190

problem

3131

05:43:50,810 --> 05:43:48,708

okay Steve here's the plan we talked

3132

05:43:53,150 --> 05:43:50,820

earlier about the kind of the yaw motion

3133

05:43:54,890 --> 05:43:53,160

to wiggle the rfg so this is where

3134

05:43:56,510 --> 05:43:54,900

you're going to gently push on your left

3135

05:43:58,730 --> 05:43:56,520

and pull on your right and then vice

3136

05:44:00,590 --> 05:43:58,740

versa to see if there's any bit of Play

3137

05:44:02,868 --> 05:44:00,600

It's really critical right here that we

3138

05:44:06,708 --> 05:44:02,878

don't go up and down so you only want to

3139

05:44:10,128 --> 05:44:08,510

and once you've worked out a little bit

3140

05:44:13,310 --> 05:44:10,138

we're going to reatten Something Real

3141

05:44:13,320 --> 05:44:16,788

copy we understand no play

3142

05:44:16,798 --> 05:44:21,470

right left inner part no part

3143

05:44:25,610 --> 05:44:23,208

copy we're going to have you re-attempt

3144

05:44:29,270 --> 05:44:25,620

one more time uh the nominal release

3145

05:44:33,910 --> 05:44:29,280

Bravo One counter two

3146

05:44:33,920 --> 05:44:37,430

counterclockwise too

3147

05:44:37,440 --> 05:44:47,090

good read back

3148

05:44:48,200 --> 05:44:47,820

um

3149

05:44:59,090 --> 05:44:48,210

[Applause]

3150

05:45:07,490 --> 05:45:03,230

no joy I got the 0.1

3151

05:45:07,500 --> 05:45:52,570

okay we copy Steve stand by one

3152

05:45:57,110 --> 05:45:55,010

coming up on four hours and 20 minutes

3153

05:45:59,150 --> 05:45:57,120

into the spacewalk again Steve Bowen

3154

05:46:01,670 --> 05:45:59,160

working to remove the rfg the radio

3155

05:46:07,070 --> 05:46:01,680

frequency group part of the s-band

3156

05:46:12,890 --> 05:46:10,070

one jocking bolt is being quite stubborn

3157

05:46:15,470 --> 05:46:12,900

teams here are helping troubleshoot uh

3158

05:46:17,990 --> 05:46:15,480

next steps for Bowen as he uses the

3159

05:46:42,708 --> 05:46:18,000

pistol grip tool to release the rfg from

3160

05:46:46,730 --> 05:46:44,510

and Steve just letting you know we are

3161

05:46:48,470 --> 05:46:46,740

still talking about it uh this is kind

3162

05:46:50,628 --> 05:46:48,480

of a unique case that puts us in between

3163

05:46:55,070 --> 05:46:50,638

a few things uh so we'll get words back

3164

05:47:34,850 --> 05:46:57,470

they understand

3165

05:47:34,860 --> 05:47:45,250

um

3166

05:47:51,230 --> 05:47:48,410

and Sultan we still don't have our next

3167

05:47:52,730 --> 05:47:51,240

steps but it may include the pry bar so

3168

05:47:54,830 --> 05:47:52,740

just to save a little time we'd like you

3169

05:48:00,110 --> 05:47:54,840

to retrieve the pry bar from crew lock

3170

05:48:05,270 --> 05:48:02,448

I understand that I think I'll stand by

3171

05:48:07,970 --> 05:48:05,280

for those cables because I don't have a

3172

05:48:10,610 --> 05:48:07,980

good reach under this tension prevent a

3173

05:48:12,948 --> 05:48:10,620

lot of you without touching it so I'll

3174

05:48:14,448 --> 05:48:12,958

stand by for that and I'll prepare the

3175

05:50:03,110 --> 05:48:14,458

driver

3176
05:50:03,120 --> 05:50:11,530
foreign

3177
05:50:11,540 --> 05:50:17,030
you're about four and a half hours pet

3178
05:50:17,040 --> 05:50:32,030
coffee

3179
05:50:37,788 --> 05:50:34,548
and if you're wondering just love

3180
05:50:44,570 --> 05:50:40,910
and for eb2 no change on the gloves all

3181
05:51:04,448 --> 05:50:44,580
the same and happy that's why

3182
05:51:10,070 --> 05:51:06,708
is there even a lift you can get that

3183
05:51:14,810 --> 05:51:13,010
I think so yeah

3184
05:51:18,410 --> 05:51:14,820
okay

3185
05:51:20,868 --> 05:51:18,420
it hasn't backed off anyway

3186
05:51:22,850 --> 05:51:20,878
but when it's worked without uh yeah

3187
05:51:28,310 --> 05:51:22,860
removing the jack in both

3188
05:51:31,070 --> 05:51:29,810

you guys are talking about what

3189

05:51:35,810 --> 05:51:31,080

everybody down here is talking about

3190

05:51:35,820 --> 05:51:52,250

don't know

3191

05:52:18,410 --> 05:51:53,510

yeah

3192

05:52:24,708 --> 05:52:20,150

over again

3193

05:52:28,670 --> 05:52:26,868

okay here's the next steps that we're

3194

05:52:29,810 --> 05:52:28,680

going to try Sultan uh you guys are kind

3195

05:52:31,368 --> 05:52:29,820

of reading our minds up there we're

3196

05:52:35,090 --> 05:52:31,378

going to have you go to the AFT side of

3197

05:52:36,830 --> 05:52:35,100

the rfg with that pry bar

3198

05:52:38,390 --> 05:52:36,840

and what we're going to do is we're

3199

05:52:42,230 --> 05:52:38,400

going to line the pry bar up in the

3200

05:52:44,150 --> 05:52:42,240

middle of the rfg with a small end and

3201

05:52:46,190 --> 05:52:44,160

we'll let us know if you can get if

3202

05:52:49,430 --> 05:52:46,200

there's a lip or like a catch you want

3203

05:52:52,070 --> 05:52:49,440

to put the the kind of the tooth of the

3204

05:52:53,990 --> 05:52:52,080

pry bar down and then so that when you

3205

05:53:01,430 --> 05:52:54,000

lift up on it it'll push forward on the

3206

05:53:01,440 --> 05:53:07,788

I think I have a small lip here

3207

05:53:13,010 --> 05:53:10,190

myself connected

3208

05:53:14,868 --> 05:53:13,020

transition and then

3209

05:53:16,850 --> 05:53:14,878

oh

3210

05:53:19,730 --> 05:53:16,860

Fireball can be decisions

3211

05:53:21,890 --> 05:53:19,740

okay and just to let you know both the

3212

05:53:24,288 --> 05:53:21,900

overall plan we're going to see if we

3213

05:53:26,930 --> 05:53:24,298

can get any push on that rfg once you

3214

05:53:28,070 --> 05:53:26,940

see any movement at all since you can

3215

05:53:30,170 --> 05:53:28,080

stop what you're doing and we'll try

3216

05:53:31,730 --> 05:53:30,180

that both again and again we want to

3217

05:53:33,350 --> 05:53:31,740

make sure that you're in this as close

3218

05:53:35,208 --> 05:53:33,360

to the center of the rfg as you can so

3219

05:53:36,470 --> 05:53:35,218

we don't side load it there is an

3220

05:53:37,850 --> 05:53:36,480

alignment guide right in the middle of

3221

05:53:43,788 --> 05:53:37,860

the rfg so you're gonna have to go just

3222

05:53:48,470 --> 05:53:45,650

and when you do put the force into it

3223

05:53:55,670 --> 05:53:48,480

it's going to be a slow steady Force we

3224

05:53:55,680 --> 05:54:00,910

nice coffee

3225

05:54:05,270 --> 05:54:03,048

and just a little further words we don't

3226

05:54:08,208 --> 05:54:05,280

want any kind of impulse hits on the on

3227

05:54:10,850 --> 05:54:08,218

it and it's a

3228

05:54:13,970 --> 05:54:10,860

the limit is about 75 pounds but just a

3229

05:54:15,590 --> 05:54:13,980

nice smooth turn on the Crowbar or the

3230

05:54:25,970 --> 05:54:15,600

pry bar to see if you can get that

3231

05:54:31,250 --> 05:54:28,368

I think it's positioned very well is

3232

05:54:34,788 --> 05:54:31,260

like my orientation is not graceful

3233

05:54:38,750 --> 05:54:37,430

or Force for that I didn't push a little

3234

05:54:45,170 --> 05:54:38,760

bit

3235

05:54:49,788 --> 05:54:48,048

okay Sultan and you can reposition uh

3236

05:54:52,990 --> 05:54:49,798

reposition as you see fit to make sure

3237

05:54:53,000 --> 05:55:21,170

or press smoothly onto the offside of it

3238

05:55:21,180 --> 05:55:41,510

okay

3239

05:55:45,110 --> 05:55:43,610
and Sultan if it's easier at the

3240

05:55:46,548 --> 05:55:45,120
worksite you can release one of the it

3241

05:56:28,010 --> 05:55:46,558
looks like there's two rests on the pry

3242

05:56:40,070 --> 05:56:30,590
it's not moving from

3243

05:56:44,750 --> 05:56:42,410
okay we uh we copy full-time negative

3244

05:56:46,128 --> 05:56:44,760
motion nothing

3245

05:57:08,690 --> 05:56:46,138
okay

3246

05:57:41,690 --> 05:57:22,690
e

3247

05:57:44,868 --> 05:57:43,310
okay

3248

05:57:48,048 --> 05:57:44,878
Morocco

3249

05:58:03,430 --> 05:57:48,058
one seven o'clockwise too

3250

05:58:11,270 --> 05:58:07,730
all right I got the 415 turns and truck

3251

05:58:11,280 --> 05:58:28,750

okay we copied

3252

05:58:34,310 --> 05:58:31,368

okay Steve we're gonna try one more time

3253

05:58:37,430 --> 05:58:34,320

driving in the bolt one turn uh bro so

3254

05:58:44,540 --> 05:58:37,440

it's going to be Bravo One clockwise two

3255

05:58:44,550 --> 05:58:57,170

[Music]

3256

05:59:00,050 --> 05:58:58,900

foreign

3257

05:59:12,650 --> 05:59:00,060

[Music]

3258

05:59:26,150 --> 05:59:14,570

yeah that's correct uh driving in

3259

05:59:26,160 --> 05:59:30,230

Ed out

3260

05:59:36,230 --> 05:59:32,510

0.11 turns

3261

05:59:45,650 --> 05:59:38,390

okay Stephen we're gonna go Bravo One

3262

05:59:45,660 --> 05:59:49,910

s

3263

06:00:07,788 --> 05:59:51,970

the world

3264

06:00:13,850 --> 06:00:08,690

foreign

3265

06:00:16,910 --> 06:00:15,830

yeah we copied that Steve and we're

3266

06:00:20,930 --> 06:00:16,920

going to talk about it for another

3267

06:00:20,940 --> 06:00:25,368

absolutely

3268

06:00:31,548 --> 06:00:27,830

we're over four and a half hours into

3269

06:00:37,490 --> 06:00:34,730

our two astronauts Steve Bowen this is

3270

06:00:39,708 --> 06:00:37,500

from his helmet camera view right here

3271

06:00:42,070 --> 06:00:39,718

and Sultan al-nayadi have completed the

3272

06:00:45,288 --> 06:00:42,080

first major task of the day which was to

3273

06:00:48,170 --> 06:00:45,298

Route some cables that will be used on

3274

06:00:50,570 --> 06:00:48,180

future irosas some rollout solar arrays

3275

06:00:53,208 --> 06:00:50,580

that will be installed later this year

3276

06:00:56,090 --> 06:00:53,218

as well as to secure some multi-layer

3277

06:00:57,708 --> 06:00:56,100

insulation around the hardware in that

3278

06:00:59,690 --> 06:00:57,718

area

3279

06:01:02,090 --> 06:00:59,700

they've moved on to the second major

3280

06:01:04,788 --> 06:01:02,100

task of the day which is to remove the

3281

06:01:11,930 --> 06:01:04,798

rfg the radio frequency group from the

3282

06:01:16,788 --> 06:01:15,048

Bowen has removed

3283

06:01:17,628 --> 06:01:16,798

okay Gentlemen The Next Step that we're

3284

06:01:19,670 --> 06:01:17,638

going to take is we're going to

3285

06:01:21,350 --> 06:01:19,680

coordinate those two movements so Sultan

3286

06:01:23,330 --> 06:01:21,360

we're going to have you place the pry

3287

06:01:25,788 --> 06:01:23,340

bar where you had it before and Steve

3288

06:01:27,770 --> 06:01:25,798

you're going to reattempt a to disengage

3289

06:01:30,350 --> 06:01:27,780

with a nominal torque of Bravo One

3290

06:01:31,970 --> 06:01:30,360

counter two and then coordinate your

3291

06:01:33,708 --> 06:01:31,980

movements so that Sultan is pushing on

3292

06:01:39,490 --> 06:01:33,718

the back at the same time that Steve is

3293

06:01:44,890 --> 06:01:41,570

counterclockwise too

3294

06:01:47,448 --> 06:01:44,900

and uh sorry if you're ready

3295

06:01:50,150 --> 06:01:47,458

okay hold on let me go

3296

06:01:56,570 --> 06:01:50,160

get clear

3297

06:02:01,210 --> 06:01:58,970

all right that's worked out again

3298

06:02:05,090 --> 06:02:01,220

points

3299

06:02:05,100 --> 06:02:09,650

we copy standby one

3300

06:02:15,650 --> 06:02:12,590

the rfg was not designed to be removed

3301

06:02:17,448 --> 06:02:15,660

during a spacewalk

3302

06:02:19,490 --> 06:02:17,458

and there's one bolt that's giving the

3303

06:02:20,930 --> 06:02:19,500

astronauts trouble right now so teams on

3304

06:02:22,670 --> 06:02:20,940

the ground are helping them step through

3305

06:02:27,110 --> 06:02:22,680

some additional procedures that may help

3306

06:02:31,310 --> 06:02:29,810

the goal is for the team to remove the

3307

06:02:33,170 --> 06:02:31,320

hardware bring it inside the space

3308

06:02:34,910 --> 06:02:33,180

station and eventually return it to

3309

06:03:03,830 --> 06:02:34,920

Earth for refurbishment before it is

3310

06:03:08,570 --> 06:03:05,270

quite familiar

3311

06:03:09,770 --> 06:03:08,580

determine like the next steps in the

3312

06:03:11,288 --> 06:03:09,780

public procedures which we would have

3313

06:03:14,150 --> 06:03:11,298

described as high report

3314

06:03:16,128 --> 06:03:14,160

Our concern down here is that if we

3315

06:03:18,288 --> 06:03:16,138

break that centerfold the force is

3316

06:03:21,310 --> 06:03:18,298

holding the Box in place it's still

3317

06:03:23,990 --> 06:03:21,320

going to be there but we won't have

3318

06:03:25,368 --> 06:03:24,000

to keep

3319

06:03:27,650 --> 06:03:25,378

so we're thinking about other options

3320

06:03:29,690 --> 06:03:27,660

but it was a little more published

3321

06:03:32,570 --> 06:03:29,700

I want to wish to use the private owners

3322

06:03:32,580 --> 06:03:37,190

risky Lifting for breakfast

3323

06:03:37,200 --> 06:03:53,570

uh

3324

06:03:53,580 --> 06:04:26,410

foreign

3325

06:04:33,288 --> 06:04:29,390

over and we are still talking about this

3326

06:04:33,298 --> 06:05:34,610

okay

3327

06:05:34,620 --> 06:06:40,030

foreign

3328

06:06:46,310 --> 06:06:42,230

we are still with you both and we're

3329

06:06:46,320 --> 06:06:56,930

okay

3330

06:07:01,548 --> 06:06:59,208

again this view live inside Mission

3331

06:07:04,970 --> 06:07:01,558

Control Houston as NASA astronaut Steve

3332

06:07:08,208 --> 06:07:04,980

Bowen and UAE astronaut Sultan alnayadi

3333

06:07:11,448 --> 06:07:08,218

are on a spacewalk today outside the

3334

06:07:16,970 --> 06:07:12,948

right now they're troubleshooting the

3335

06:07:18,830 --> 06:07:16,980

removal of the rfg the radio frequency

3336

06:07:21,530 --> 06:07:18,840

group

3337

06:07:23,990 --> 06:07:21,540

this is the brains essentially of the

3338

06:07:26,510 --> 06:07:24,000

orbital replacement unit on the

3339

06:07:34,730 --> 06:07:26,520

s-band system it contains the computer

3340

06:07:38,510 --> 06:07:36,590

we're looking to remove this piece of

3341

06:07:40,190 --> 06:07:38,520

Hardware that you can see from NASA

3342

06:07:42,470 --> 06:07:40,200

astronaut Steve Bowen's helmet camera

3343

06:08:12,590 --> 06:07:42,480

bring it inside the space station for

3344

06:08:18,350 --> 06:08:16,250

play PBA so before we do the lifting up

3345

06:08:38,750 --> 06:08:18,360

on the pry bar we're going to try doing

3346

06:08:42,948 --> 06:08:40,430

okay The Next Step that we're going to

3347

06:08:45,230 --> 06:08:42,958

have you both trying is a combination of

3348

06:08:46,850 --> 06:08:45,240

the pry bar on the back with Sultan and

3349

06:08:48,650 --> 06:08:46,860

then the wiggle on the front with you

3350

06:08:50,090 --> 06:08:48,660

Steve we're thinking that we need to

3351

06:08:53,090 --> 06:08:50,100

overcome a little bit of fiction between

3352

06:08:55,610 --> 06:08:53,100

the rfg and the mounting plate and so

3353

06:09:03,170 --> 06:08:55,620

some gentle yawning at the same time as

3354

06:09:03,180 --> 06:09:07,190

everyone

3355

06:09:11,690 --> 06:09:09,230

you're still a good position is to be

3356

06:09:19,490 --> 06:09:11,700

steady with a steady push

3357

06:09:27,708 --> 06:09:22,250

okay I'm in provision okay we'll start

3358

06:09:27,718 --> 06:09:32,930

we left okay

3359

06:09:32,940 --> 06:09:37,270

no motion are you seeing anything

3360

06:09:41,930 --> 06:09:40,070

I am fat looks like it

3361

06:09:42,770 --> 06:09:41,940

I see your reflection in here hold up by

3362

06:09:44,510 --> 06:09:42,780

the way

3363

06:09:48,288 --> 06:09:44,520

advisor

3364

06:09:48,298 --> 06:10:00,708

continuing to draw

3365

06:10:05,750 --> 06:10:03,530

okay we uh we unders we copied no motion

3366

06:10:07,548 --> 06:10:05,760

so the next step uh Sultan I know we we

3367

06:10:10,310 --> 06:10:07,558

have talked about not lifting up the rfg

3368

06:10:11,868 --> 06:10:10,320

but uh uh in stuck in the position that

3369

06:10:14,628 --> 06:10:11,878

we're at that's kind of our next best

3370

06:10:17,330 --> 06:10:14,638

option so Sultan we're gonna have you

3371

06:10:21,170 --> 06:10:17,340

flip the pry bar around and put the long

3372

06:10:23,570 --> 06:10:21,180

Edge just under the rfg and gently try

3373

06:10:25,190 --> 06:10:23,580

to lift slightly up on the rfg and what

3374

06:10:27,048 --> 06:10:25,200

we're trying to do is exercise some of

3375

06:10:31,010 --> 06:10:27,058

that stiction between the rfg and the

3376

06:10:36,590 --> 06:10:34,610

like copy if it doesn't work

3377

06:10:38,868 --> 06:10:36,600

inside

3378

06:10:41,628 --> 06:10:38,878

and just to clarify no no action for you

3379

06:10:48,830 --> 06:10:43,310

I'm just standing back there in

3380

06:10:48,840 --> 06:11:02,470

on both sides

3381

06:11:06,288 --> 06:11:05,030

and Sultan those are good motions and

3382

06:11:21,670 --> 06:11:06,298

we'll just have you continue that all

3383

06:11:26,868 --> 06:11:24,530

and Steve just so you can be ready after

3384

06:11:28,730 --> 06:11:26,878

he's exercised the full length of the

3385

06:11:32,948 --> 06:11:28,740

rfg we'll have you attempt to re-release

3386

06:11:37,788 --> 06:11:32,958

on Bravo One counter two one more time

3387

06:11:43,190 --> 06:11:40,208

and you guys are about three minutes

3388

06:11:44,930 --> 06:11:43,200

those are good words and uh you're about

3389

06:11:46,670 --> 06:11:44,940

three minutes from a sunrise and just so

3390

06:11:48,530 --> 06:11:46,680

you know we are watching the timeline we

3391

06:11:54,470 --> 06:11:48,540

have a few more minutes to troubleshoot

3392

06:11:54,480 --> 06:12:00,110

okay

3393

06:12:06,110 --> 06:12:03,288

yeah try different holes stations at the

3394

06:12:06,120 --> 06:12:12,650

let's go Steve

3395

06:12:16,610 --> 06:12:14,810

all right and Steve your go-to reattent

3396

06:12:20,288 --> 06:12:16,620

the center jacking bolt Bravo One

3397

06:12:36,830 --> 06:12:22,190

o'clockwise too

3398

06:12:46,868 --> 06:12:39,708

points

3399

06:12:46,878 --> 06:13:01,250

and by one

3400

06:13:01,260 --> 06:13:06,368

um

3401

06:13:06,378 --> 06:13:14,330

our understanding

3402

06:13:19,250 --> 06:13:17,208

and if we to do the higher torque

3403

06:13:47,930 --> 06:13:19,260

setting we do with the warning here

3404

06:13:51,708 --> 06:13:49,910

okay big picture on the potential next

3405

06:13:53,448 --> 06:13:51,718

steps we're not taking the action yet

3406

06:13:55,250 --> 06:13:53,458

but there's a couple of associated words

3407

06:13:58,310 --> 06:13:55,260

here so the next step is going to be to

3408

06:14:00,948 --> 06:13:58,320

increase the PGT to Bravo 7.

3409

06:14:03,410 --> 06:14:00,958

and note that the PGT will only it'll

3410

06:14:05,530 --> 06:14:03,420

ramp up the torque that it puts into the

3411

06:14:08,510 --> 06:14:05,540

bolts until it starts moving

3412

06:14:11,090 --> 06:14:08,520

there is a warning Associated that this

3413

06:14:13,548 --> 06:14:11,100

is going to be above the failure torque

3414

06:14:15,110 --> 06:14:13,558

of the bolt increasing in the torque may

3415

06:14:16,970 --> 06:14:15,120

break the bolt presenting loose hardware

3416

06:14:20,208 --> 06:14:16,980

and potential sharp edges at the bolt

3417

06:14:22,670 --> 06:14:20,218

interface on both the rfg and the statue

3418

06:14:24,590 --> 06:14:22,680

so be prepared for fond with a small

3419

06:14:29,090 --> 06:14:24,600

trash bag and avoid contact with the

3420

06:14:35,150 --> 06:14:32,570

coffee okay no copies

3421

06:14:46,010 --> 06:14:35,160

and stand by one I will call you when we

3422

06:14:46,020 --> 06:14:56,628

s

3423

06:14:56,638 --> 06:15:12,128

okay

3424

06:15:17,270 --> 06:15:15,470

coming up on 4 hours and fifty five zero

3425

06:15:18,650 --> 06:15:17,280

minutes into the spacewalk we have an

3426

06:15:22,490 --> 06:15:18,660

orbital sunrise on the International

3427

06:15:27,530 --> 06:15:25,670

station buying 262 statute miles over

3428

06:15:29,628 --> 06:15:27,540

the Sea of Japan

3429

06:15:31,368 --> 06:15:29,638

this view coming from Steve Bowen's

3430

06:15:33,830 --> 06:15:31,378

helmet camera NASA astronaut on his

3431

06:15:36,590 --> 06:15:33,840

eighth spacewalk today teams here on the

3432

06:15:39,890 --> 06:15:36,600

ground are working to troubleshoot a

3433

06:15:41,330 --> 06:15:39,900

stuck bolt on this rfg radio frequency

3434

06:16:39,770 --> 06:15:41,340

group that the teams are trying to

3435

06:16:43,310 --> 06:16:41,390

thank you

3436

06:16:46,730 --> 06:16:43,320

and we are still talking about it before

3437

06:16:46,740 --> 06:17:50,208

absolutely

3438

06:17:50,218 --> 06:18:22,430

out

3439

06:19:00,590 --> 06:18:24,830

a little more forward just off the

3440

06:19:00,600 --> 06:19:20,990

no good one thank you

3441

06:19:21,000 --> 06:19:43,448

1395

3442

06:19:48,288 --> 06:19:46,670

okay Steven Sultan here's the plan

3443

06:19:51,890 --> 06:19:48,298

um Steve we are going to have you do

3444

06:19:53,510 --> 06:19:51,900

Bravo 7 counter two Sultan at the same

3445

06:19:56,090 --> 06:19:53,520

time we're going to have you gently push

3446

06:19:58,850 --> 06:19:56,100

with a pry bar on the back side

3447

06:20:00,590 --> 06:19:58,860

and keep in mind that the PGT is only

3448

06:20:03,590 --> 06:20:00,600

going to put in as much force as needed

3449

06:20:05,810 --> 06:20:03,600

to start driving that bolt so if you get

3450

06:20:07,490 --> 06:20:05,820

an indication that the bolt is broken as

3451
06:20:10,128 --> 06:20:07,500
in its free spinning and the box is not

3452
06:20:11,570 --> 06:20:10,138
moving anywhere go ahead and stop Sultan

3453
06:20:18,170 --> 06:20:11,580
as soon as you see motion on the box

3454
06:20:18,180 --> 06:20:27,530
Ry all as well

3455
06:20:27,540 --> 06:20:34,690
correct

3456
06:20:41,930 --> 06:20:37,990
position on this

3457
06:20:46,548 --> 06:20:44,628
and let this

3458
06:20:51,830 --> 06:20:46,558
yep and we see that

3459
06:20:51,840 --> 06:20:56,030
the mobile trying to catch the washers

3460
06:20:59,330 --> 06:20:57,890
and Steve did you see where the bolt

3461
06:21:00,708 --> 06:20:59,340
head went or did that stay captive on

3462
06:21:02,270 --> 06:21:00,718
your PGT

3463
06:21:04,368 --> 06:21:02,280

all right Ed I haven't checked the end

3464

06:21:07,910 --> 06:21:04,378
of the pgp yet

3465

06:21:13,690 --> 06:21:07,920
all right Kathy

3466

06:21:21,170 --> 06:21:17,690
repaired pretty much trash bags

3467

06:21:23,930 --> 06:21:21,180
unless it was going forward Venus

3468

06:21:26,208 --> 06:21:23,940
Direction

3469

06:21:28,730 --> 06:21:26,218
and

3470

06:21:32,448 --> 06:21:28,740
it wasn't fitting anything they went

3471

06:21:37,368 --> 06:21:32,458
Venus and forward station

3472

06:21:37,378 --> 06:21:44,448
okay we copy your track in Fulton

3473

06:21:44,458 --> 06:21:49,330
foreign

3474

06:21:53,030 --> 06:21:51,230
okay we're going to need a minute to

3475

06:21:55,368 --> 06:21:53,040
talk about this one uh if you see any

3476

06:21:57,230 --> 06:21:55,378

loose items uh please let us know where

3477

06:21:59,510 --> 06:21:57,240

you see them going if you don't catch

3478

06:22:00,590 --> 06:21:59,520

them we'll take those words and uh we're

3479

06:22:06,230 --> 06:22:00,600

going to talk about this one for a

3480

06:22:06,240 --> 06:22:17,810

I had it

3481

06:22:28,150 --> 06:22:20,390

and then there is a washer just a couple

3482

06:22:34,910 --> 06:22:30,850

hold on

3483

06:22:36,410 --> 06:22:34,920

the trash bag where's another one that's

3484

06:22:37,970 --> 06:22:36,420

right top of your hair mess you can't

3485

06:22:59,270 --> 06:22:37,980

reach you

3486

06:22:59,280 --> 06:23:18,170

okay

3487

06:23:22,490 --> 06:23:20,390

this is your

3488

06:23:24,960 --> 06:23:22,500

records

3489

06:23:29,448 --> 06:23:24,970

and Steve is uh

3490

06:23:35,330 --> 06:23:32,570

3.9 on the actual torque and I got the

3491

06:23:37,190 --> 06:23:35,340

bald head stowed in the trash bag

3492

06:23:42,170 --> 06:23:37,200

and you can see where it sheared off at

3493

06:23:46,610 --> 06:23:45,288

okay we copied that that was expected

3494

06:23:49,548 --> 06:23:46,620

um

3495

06:23:51,110 --> 06:23:49,558

and uh once you get things stowed if you

3496

06:23:53,810 --> 06:23:51,120

give us a good glove and hap check do

3497

06:23:55,250 --> 06:23:53,820

the sharp edges or sorry glove check do

3498

06:23:58,430 --> 06:23:55,260

the sharp edges and we're talking about

3499

06:23:58,440 --> 06:24:19,010

okay

3500

06:24:19,020 --> 06:24:22,548

uh

3501

06:24:27,288 --> 06:24:26,390

thank you both dogs are good

3502

06:24:30,110 --> 06:24:27,298

um

3503

06:24:35,270 --> 06:24:30,120

might be a small

3504

06:24:37,670 --> 06:24:35,280

off on the RTV on my right glove this

3505

06:24:41,510 --> 06:24:37,680

hell of a girl

3506

06:24:43,788 --> 06:24:41,520

and it hasn't penetrated RTD

3507

06:24:46,610 --> 06:24:43,798

thank you to get inside so I'll fight

3508

06:24:48,470 --> 06:24:46,620

you take a look at that later on okay we

3509

06:24:50,150 --> 06:24:48,480

copied a spot on the RTV on the right

3510

06:24:54,830 --> 06:24:50,160

glove and you believe it's limited to

3511

06:24:57,890 --> 06:24:56,810

okay good word Steve we're obviously

3512

06:25:04,310 --> 06:24:57,900

talking about this one a little bit big

3513

06:25:04,320 --> 06:25:26,930

s Dave

3514

06:25:26,940 --> 06:25:39,708

bar

3515

06:25:45,830 --> 06:25:42,650

affecting it to work but uh we'll see it

3516

06:25:50,868 --> 06:25:45,840

play the ballpark but we'll engage with

3517

06:25:55,190 --> 06:25:52,910

when we are five hours into today's

3518

06:26:00,970 --> 06:25:55,200

spacewalk this view from helmet camera

3519

06:26:05,330 --> 06:26:03,590

UAE astronaut are working to remove the

3520

06:26:08,330 --> 06:26:05,340

r we're going to have you use the pry

3521

06:26:09,770 --> 06:26:08,340

bar to put some pressure on the back of

3522

06:26:11,990 --> 06:26:09,780

the box while Steve we're going to have

3523

06:26:13,490 --> 06:26:12,000

you pull it you can do the gentle Left

3524

06:26:16,010 --> 06:26:13,500

Right wiggle but we're going to see if

3525

06:26:22,930 --> 06:26:16,020

this if by chance uh this might have

3526

06:26:28,368 --> 06:26:25,490

all right three two one did you study

3527

06:26:32,350 --> 06:26:28,378

absolute of the left right left right

3528

06:26:32,360 --> 06:26:37,850

right left

3529

06:27:05,990 --> 06:26:39,770

and we're getting off of there

3530

06:27:09,708 --> 06:27:07,570

the

3531

06:27:13,430 --> 06:27:09,718

two astronauts have been working to

3532

06:27:16,250 --> 06:27:13,440

remove the rfg the radio frequency group

3533

06:27:18,410 --> 06:27:16,260

however there was one bolt that was

3534

06:27:20,690 --> 06:27:18,420

stuck and not allowing them to remove it

3535

06:27:23,448 --> 06:27:20,700

from the stanchion that bolt broke

3536

06:27:26,270 --> 06:27:23,458

during troubleshooting procedures

3537

06:27:28,610 --> 06:27:26,280

and teams are now looking

3538

06:27:56,868 --> 06:27:28,620

through future steps for the rest of the

3539

06:28:14,690 --> 06:27:59,570

even if it not

3540

06:28:14,700 --> 06:28:42,410

everyone

3541

06:28:47,628 --> 06:28:44,628

okay Sultan we're going to have you head

3542

06:28:49,310 --> 06:28:47,638

back to the staging bag in the airlock

3543

06:28:51,948 --> 06:28:49,320

and we're going to have you pick up the

3544

06:28:52,990 --> 06:28:51,958

Eva Hammer we think that we might be

3545

06:28:56,390 --> 06:28:53,000

able to

3546

06:28:58,850 --> 06:28:56,400

loosen up the cling of the jacking bolt

3547

06:29:00,410 --> 06:28:58,860

with some the use of the Eva Hammer

3548

06:29:15,770 --> 06:29:00,420

again that's in the staging bag and

3549

06:29:19,128 --> 06:29:17,750

teams continue troubleshooting

3550

06:29:21,230 --> 06:29:19,138

procedures here in Mission Control

3551
06:29:23,810 --> 06:29:21,240
Houston and relaying those up to the

3552
06:29:26,570 --> 06:29:23,820
astronauts Sultana al-niadi is going to

3553
06:29:29,270 --> 06:29:26,580
retrieve another tool to attempt in

3554
06:29:34,010 --> 06:29:29,280
helping remove the rfg from its

3555
06:29:40,490 --> 06:29:36,590
the eight structural bolts released by

3556
06:29:43,070 --> 06:29:40,500
Bowen all moved as planned however the

3557
06:29:49,010 --> 06:29:43,080
one Center jacking bolt would not remove

3558
06:29:53,030 --> 06:29:51,048
and a reminder this Hardware was not

3559
06:29:55,190 --> 06:29:53,040
planned to be modified or serviced

3560
06:29:57,830 --> 06:29:55,200
during a spacewalk so

3561
06:30:01,788 --> 06:29:59,810
the goal overall though is to have it

3562
06:30:03,770 --> 06:30:01,798
removed brought inside the space station

3563
06:30:09,890 --> 06:30:03,780

and returned to Earth refurbishment

3564

06:30:13,970 --> 06:30:11,990

this Hardware is part of the s-band

3565

06:30:21,948 --> 06:30:13,980

system which is our critical command and

3566

06:30:26,750 --> 06:30:25,190

obviously we have uh redundancy in those

3567

06:32:26,090 --> 06:30:26,760

Services otherwise we wouldn't have the

3568

06:32:30,350 --> 06:32:28,310

in this view from one of the camera's

3569

06:32:32,750 --> 06:32:30,360

external on the space station we have a

3570

06:32:35,650 --> 06:32:32,760

great view of the canadarm 2 on which

3571

06:32:37,490 --> 06:32:35,660

Steve Bowen is attached

3572

06:32:39,410 --> 06:32:37,500

foreign

3573

06:32:41,448 --> 06:32:39,420

at the top of your screen that beautiful

3574

06:32:44,930 --> 06:32:41,458

blue below is the North Pacific Ocean

3575

06:32:47,930 --> 06:32:44,940

the space station traveling 261 statute

3576
06:33:02,208 --> 06:32:47,940
miles above and approximately 17 500

3577
06:33:07,128 --> 06:33:05,030
meanwhile emirati astronaut Sultana

3578
06:33:09,708 --> 06:33:07,138
nayati on his first spacewalk which is

3579
06:33:11,448 --> 06:33:09,718
also the first spacewalk for an

3580
06:33:13,670 --> 06:33:11,458
astronaut from the United Arab Emirates

3581
06:33:16,128 --> 06:33:13,680
has made his way back to the airlock to

3582
06:34:14,868 --> 06:33:16,138
retrieve an additional tool to assist in

3583
06:34:19,128 --> 06:34:16,548
thank you

3584
06:34:20,868 --> 06:34:19,138
and just as for you Steve uh as you hang

3585
06:34:23,030 --> 06:34:20,878
out there it does look like still tons

3586
06:34:24,650 --> 06:34:23,040
in the staging bag in the airlock and

3587
06:34:26,810 --> 06:34:24,660
we're going to use the Eva hammer on

3588
06:34:37,628 --> 06:34:26,820

that soft.catch that's on the back of

3589

06:34:42,110 --> 06:34:40,010

we got to cut something and now we're

3590

06:34:44,208 --> 06:34:42,120

going to use a hammer uh and and when we

3591

06:34:46,070 --> 06:34:44,218

he uses a hammer on the back we're going

3592

06:34:48,770 --> 06:34:46,080

to let you kind of Wiggle the rfg with

3593

06:34:48,780 --> 06:35:38,230

I will try

3594

06:35:41,750 --> 06:35:40,250

hey Steve as you're sitting there we're

3595

06:35:43,610 --> 06:35:41,760

talking about some of the fog that was

3596

06:35:45,170 --> 06:35:43,620

generated can you give us an idea of how

3597

06:35:46,788 --> 06:35:45,180

many pieces of fud you think we're

3598

06:35:51,948 --> 06:35:46,798

tracking a bolt and a washer did you see

3599

06:35:57,470 --> 06:35:55,850

there were two washers that I saw

3600

06:35:58,670 --> 06:35:57,480

um I didn't think I saw much of anything

3601

06:36:00,948 --> 06:35:58,680

else

3602

06:36:03,830 --> 06:36:00,958

but I caught the Bullhead

3603

06:36:06,230 --> 06:36:03,840

and uh the two washers I had I thought I

3604

06:36:10,190 --> 06:36:06,240

had one but uh

3605

06:36:12,590 --> 06:36:10,200

Spirit on me I didn't see anything else

3606

06:36:14,570 --> 06:36:12,600

it's pretty quick okay it was it was a

3607

06:36:16,190 --> 06:36:14,580

great catch actually the uh so we did

3608

06:36:17,628 --> 06:36:16,200

see you get the bolt head

3609

06:36:19,010 --> 06:36:17,638

um and so we're just kind of thinking

3610

06:36:20,990 --> 06:36:19,020

through where the washers could be a

3611

06:36:22,368 --> 06:36:21,000

specific uh specifically because you're

3612

06:36:26,448 --> 06:36:22,378

close to the arm did you happen to see

3613

06:36:31,788 --> 06:36:29,930

I'll tell a track both of them initially

3614

06:36:32,990 --> 06:36:31,798

um if one of them was sitting on top of

3615

06:36:35,270 --> 06:36:33,000

my head for a while but he was drifting

3616

06:36:38,270 --> 06:36:35,280

behind us

3617

06:36:41,810 --> 06:36:38,280

earlier after he said I couldn't get it

3618

06:36:44,390 --> 06:36:41,820

I agree uh two washers the first one was

3619

06:36:46,010 --> 06:36:44,400

immediately behind speed and moving

3620

06:36:48,110 --> 06:36:46,020

towards the arms

3621

06:36:52,128 --> 06:36:48,120

and the second one I it was moving

3622

06:36:53,150 --> 06:36:52,138

slowly with the selling stations

3623

06:37:10,310 --> 06:36:53,160

um

3624

06:37:15,170 --> 06:37:13,010

and a brief loss of signal with the

3625

06:37:17,030 --> 06:37:15,180

International Space Station as teams

3626
06:37:19,548 --> 06:37:17,040
were discussing with the astronauts some

3627
06:37:23,390 --> 06:37:19,558
of the pieces from the radio frequency

3628
06:37:27,770 --> 06:37:23,400
group that came apart whenever trying to

3629
06:37:37,730 --> 06:37:30,048
we will regain communication shortly

3630
06:37:42,650 --> 06:37:40,070
meanwhile we are now 5 hours and 11

3631
06:37:47,448 --> 06:37:42,660
minutes into today's space walk

3632
06:37:49,368 --> 06:37:47,458
a recap so far the first main task has

3633
06:37:53,868 --> 06:37:49,378
been completed that was to Route some

3634
06:37:58,190 --> 06:37:56,448
head towards

3635
06:38:00,170 --> 06:37:58,200
okay we copied that the thermal coupler

3636
06:38:03,788 --> 06:38:00,180
is closed and if you get a safer handle

3637
06:38:09,350 --> 06:38:07,490
is to be closed now

3638
06:39:16,850 --> 06:38:09,360

oh sorry yes we're with you on voice and

3639

06:39:16,860 --> 06:39:20,270

foreign

3640

06:39:20,280 --> 06:39:32,270

copy both safer handles down thanks

3641

06:39:32,280 --> 06:40:03,430

vegetables

3642

06:40:07,190 --> 06:40:05,990

and Sultan as you get back out to the

3643

06:40:09,410 --> 06:40:07,200

work site we're going to have you take

3644

06:40:11,810 --> 06:40:09,420

it the same position on the AFT side of

3645

06:40:14,090 --> 06:40:11,820

the rfg

3646

06:40:16,190 --> 06:40:14,100

when we use the hammer we're going to be

3647

06:40:45,410 --> 06:40:16,200

specifically using it on the soft dot

3648

06:40:49,788 --> 06:40:48,350

okay I'm back in position

3649

06:40:52,250 --> 06:40:49,798

foreign

3650

06:40:54,288 --> 06:40:52,260

copy so you can see kind of out by your

3651

06:40:56,690 --> 06:40:54,298

left hand is the soft dot catch it's

3652

06:40:59,090 --> 06:40:56,700

that little gold square that sticks out

3653

06:41:00,948 --> 06:40:59,100

from just above the stanchion

3654

06:41:02,750 --> 06:41:00,958

and we want you to position

3655

06:41:05,330 --> 06:41:02,760

um so that you can hit that with the

3656

06:41:07,490 --> 06:41:05,340

hammer but that if you happen to miss it

3657

06:41:09,170 --> 06:41:07,500

your bias down toward the stanchion side

3658

06:41:11,510 --> 06:41:09,180

there's a thin piece of mli that

3659

06:41:13,670 --> 06:41:11,520

protects that stanchion and we do not

3660

06:41:15,110 --> 06:41:13,680

want to strike the box with a hammer so

3661

06:41:16,788 --> 06:41:15,120

we want to make sure that you're in a

3662

06:41:22,490 --> 06:41:16,798

good position to get the soft dot catch

3663

06:41:22,500 --> 06:41:56,230

foreign

3664

06:41:56,240 --> 06:42:02,208

the black side on there the rubber Edge

3665

06:42:02,218 --> 06:42:20,510

the non-metal side

3666

06:42:20,520 --> 06:42:25,070

devotion

3667

06:42:25,080 --> 06:42:35,030

okay we copy

3668

06:42:38,990 --> 06:42:36,830

this view from the helmet camera of

3669

06:42:40,910 --> 06:42:39,000

Sultan al-nayani

3670

06:42:48,190 --> 06:42:40,920

and Sultan you can verify that neither

3671

06:42:54,470 --> 06:42:50,810

is wiggling

3672

06:42:57,410 --> 06:42:54,480

up and down but not old enough

3673

06:42:59,390 --> 06:42:57,420

and that is my that is like a lot

3674

06:43:01,788 --> 06:42:59,400

a dark line

3675

06:43:03,048 --> 06:43:01,798

reach for an alignment and that is not

3676

06:43:05,208 --> 06:43:03,058

moving as well

3677

06:43:14,510 --> 06:43:05,218

no forward motion

3678

06:43:19,368 --> 06:43:18,170

let's view a rare use of the Eva hammer

3679

06:43:22,548 --> 06:43:19,378

point

3680

06:43:24,770 --> 06:43:22,558

as the astronauts attempt to remove the

3681

06:43:29,330 --> 06:43:24,780

rfg the radio frequency group from its

3682

06:43:33,530 --> 06:43:31,910

try and go ahead and Stow that tool you

3683

06:43:35,628 --> 06:43:33,540

can just put in the crew lock bag or on

3684

06:43:37,910 --> 06:43:35,638

your mwbs whichever you prefer and we

3685

06:43:45,110 --> 06:43:37,920

are talking steps to uh

3686

06:43:45,120 --> 06:44:01,070

hi coffee

3687

06:44:06,048 --> 06:44:04,070

because it's an iterative process to

3688

06:44:07,850 --> 06:44:06,058

reinstall these we'll start with one

3689

06:44:10,970 --> 06:44:07,860

we'll start with the left one do five

3690

06:44:12,350 --> 06:44:10,980

turns again the rfg that the astronauts

3691

06:44:14,330 --> 06:44:12,360

are working to removed was never

3692

06:44:18,288 --> 06:44:14,340

intended to be serviced during a

3693

06:44:23,150 --> 06:44:20,270

Steve Bowen was able to remove the eight

3694

06:44:26,990 --> 06:44:23,160

structural bolts but had issues with the

3695

06:44:30,048 --> 06:44:27,000

one jacking bolt still keeping the

3696

06:44:32,628 --> 06:44:30,058

Hardware attached to its stanchion

3697

06:44:41,270 --> 06:44:32,638

that bolt head sheared off during

3698

06:44:44,868 --> 06:44:42,590

they one of those iterative bolt

3699

06:44:46,490 --> 06:44:44,878

processes where you're going to drive it

3700

06:44:47,810 --> 06:44:46,500

for five turns and then we're gonna look

3701
06:44:49,430 --> 06:44:47,820
at the running torque and then give you

3702
06:44:51,708 --> 06:44:49,440
a final torque

3703
06:44:54,590 --> 06:44:51,718
the first bolt we're going to start with

3704
06:44:56,690 --> 06:44:54,600
is the far left Juliet

3705
06:44:58,850 --> 06:44:56,700
your settings are Bravo One

3706
06:45:01,310 --> 06:44:58,860
clockwise two

3707
06:45:03,170 --> 06:45:01,320
and we want you to drive for five turns

3708
06:45:05,628 --> 06:45:03,180
and it's important to not release the

3709
06:45:09,288 --> 06:45:05,638
pg2 trigger until five turns and then

3710
06:45:14,990 --> 06:45:10,970
okay

3711
06:45:17,390 --> 06:45:15,000
model one clockwise too

3712
06:45:19,430 --> 06:45:17,400
those five turns you got Peak Running

3713
06:45:22,368 --> 06:45:19,440

torque convert all the way to the left

3714

06:45:22,378 --> 06:45:32,510

good read back

3715

06:45:44,090 --> 06:45:34,970

All Right Storage

3716

06:45:44,100 --> 06:45:55,570

because the rfg will

3717

06:45:55,580 --> 06:45:59,570

at all

3718

06:46:04,310 --> 06:46:02,150

we copying it as it doesn't seem as far

3719

06:46:10,970 --> 06:46:04,320

out as the others it has definitely gone

3720

06:46:16,670 --> 06:46:13,368

unless it's just down here

3721

06:46:19,070 --> 06:46:16,680

we copy standby

3722

06:46:23,330 --> 06:46:19,080

the rfg was unable to be removed as

3723

06:46:28,190 --> 06:46:26,270

therefore Steve Bowen will redrive the

3724

06:46:39,730 --> 06:46:28,200

structural bolts too and hold it in

3725

06:46:49,868 --> 06:46:42,530

clockwise but he's also got to change

3726

06:46:54,890 --> 06:46:52,610

okay Steve with zero running torque

3727

06:46:56,690 --> 06:46:54,900

we're gonna have you put the PGT in

3728

06:47:03,110 --> 06:46:56,700

Ratchet clockwise

3729

06:47:30,948 --> 06:47:06,468

about the clockwise it moved the MTL the

3730

06:47:35,750 --> 06:47:33,830

I feel the 2.5

3731

06:47:42,548 --> 06:47:35,760

I'm watching clockwise you ready for me

3732

06:47:55,730 --> 06:47:44,750

yeah so you should just at this point

3733

06:48:15,230 --> 06:47:58,128

you want me to find just ratchet this

3734

06:48:15,240 --> 06:48:19,430

he's probably got it by another fight

3735

06:48:28,310 --> 06:48:20,930

and it will probably be an additional

3736

06:48:28,320 --> 06:48:38,150

Anderson

3737

06:48:42,468 --> 06:48:40,610

go ahead

3738

06:48:45,230 --> 06:48:42,478

yeah I see that you're cleaning up the

3739

06:48:46,548 --> 06:48:45,240

bag for your steps we're talking about

3740

06:48:49,070 --> 06:48:46,558

the cables

3741

06:48:51,770 --> 06:48:49,080

um and I if

3742

06:48:53,448 --> 06:48:51,780

I think that you had the uh wire tie

3743

06:48:57,468 --> 06:48:53,458

around the cables but you had not tacked

3744

06:49:02,270 --> 06:49:00,410

that's affirmative yes

3745

06:49:04,548 --> 06:49:02,280

okay if you can get those stowed on a

3746

06:49:12,368 --> 06:49:04,558

stanchion with a wire tie you can and

3747

06:49:12,378 --> 06:49:15,900

outside of

3748

06:49:21,770 --> 06:49:17,208

[Music]

3749

06:49:28,910 --> 06:49:21,780

sense are we closing the fence anyway

3750

06:49:28,920 --> 06:49:36,048

all right I'm almost there

3751

06:49:45,170 --> 06:49:39,170

I think I'm breaking torque yep

3752

06:49:45,180 --> 06:49:50,270

I don't know how many extra turns it was

3753

06:49:50,280 --> 06:49:55,548

probably the five

3754

06:50:00,048 --> 06:49:57,530

okay Steve uh we're gonna do the same

3755

06:50:02,150 --> 06:50:00,058

thing on both Alpha uh so we're going to

3756

06:50:04,788 --> 06:50:02,160

start in Bravo one you have to reset the

3757

06:50:07,690 --> 06:50:04,798

MTL to 12 foot pounds

3758

06:50:16,128 --> 06:50:07,700

we'll go clockwise too

3759

06:50:19,968 --> 06:50:18,830

that's affirmative and for sultan um

3760

06:50:22,010 --> 06:50:19,978

we'll end up kind of cleaning up

3761

06:50:23,628 --> 06:50:22,020

everything back there so uh your call on

3762

06:50:25,310 --> 06:50:23,638

the cables if you can tack them down out

3763

06:50:28,788 --> 06:50:25,320

of the way we will end up reinstalling

3764

06:50:33,350 --> 06:50:31,128

I think if I just

3765

06:50:34,570 --> 06:50:33,360

plug them under the rfg they'll be

3766

06:50:37,610 --> 06:50:34,580

secured

3767

06:50:40,070 --> 06:50:37,620

net class and we can cover with the 10

3768

06:50:42,830 --> 06:50:40,080

that'll be secured

3769

06:51:24,350 --> 06:50:42,840

at the end of 10th

3770

06:51:24,360 --> 06:52:10,250

a lot harder than gloves than it is

3771

06:52:10,260 --> 06:52:14,390

all right 30.5

3772

06:52:19,010 --> 06:52:16,548

all right good config so we're Bravo One

3773

06:52:23,208 --> 06:52:19,020

clockwise two 30.5 you're gonna go on

3774

06:52:23,218 --> 06:52:26,690

also fries

3775

06:52:26,700 --> 06:52:41,288

too

3776
06:52:41,298 --> 06:52:45,070
all right

3777
06:53:02,830 --> 06:52:48,230
manual ratchet

3778
06:53:02,840 --> 06:53:15,170
good settings good bolts

3779
06:53:15,180 --> 06:53:18,368
record

3780
06:53:24,350 --> 06:53:20,448
5.06 terms

3781
06:53:29,448 --> 06:53:27,170
okay we copy and the good news is you

3782
06:53:33,110 --> 06:53:29,458
can now just go to Alpha One and drive

3783
06:53:33,120 --> 06:53:40,548
that is much better news

3784
06:53:46,910 --> 06:53:42,288
Alpha One

3785
06:53:46,920 --> 06:53:50,690
affirmative clockwise too

3786
06:53:50,700 --> 06:53:54,170
and I'm gonna go till

3787
06:53:54,180 --> 06:53:57,708
both Alpha

3788
06:53:57,718 --> 06:54:02,570

good words

3789

06:54:07,070 --> 06:54:04,730

breakups

3790

06:54:08,750 --> 06:54:07,080

Bowen is now driving the eight

3791

06:54:10,670 --> 06:54:08,760

structural bolts he was able to release

3792

06:54:16,610 --> 06:54:10,680

earlier

3793

06:54:16,620 --> 06:54:21,250

all right

3794

06:54:21,260 --> 06:54:28,368

4.90 turns

3795

06:54:32,750 --> 06:54:31,070

okay we copy 2.3 and 4.9 and next we're

3796

06:54:34,368 --> 06:54:32,760

going to go to the second in from the

3797

06:54:40,190 --> 06:54:34,378

left of bullet Hotel

3798

06:54:47,770 --> 06:54:42,110

Bravo won

3799

06:54:52,968 --> 06:54:50,810

black guys three will go five turns okay

3800

06:54:54,530 --> 06:54:52,978

and Steve actually stand by one uh we're

3801
06:54:57,048 --> 06:54:54,540
gonna we don't need to do the iterative

3802
06:54:59,390 --> 06:54:57,058
on this bolt so you can go ahead and set

3803
06:55:03,110 --> 06:54:59,400
it at two Alpha One clockwise two to

3804
06:55:10,490 --> 06:55:06,708
hey back to Alpha One

3805
06:55:11,690 --> 06:55:10,500
clockwise two we're driving all the way

3806
06:55:14,570 --> 06:55:11,700
all right

3807
06:55:17,030 --> 06:55:14,580
here it comes

3808
06:55:18,770 --> 06:55:17,040
uh whatever letter this is second from

3809
06:55:33,450 --> 06:55:18,780
the left

3810
06:55:33,460 --> 06:55:43,400
[Applause]

3811
06:55:47,150 --> 06:55:45,048
[Music]

3812
06:55:49,250 --> 06:55:47,160
3.14

3813
06:55:51,410 --> 06:55:49,260

Okay so

3814

06:55:54,650 --> 06:55:51,420

Alpha One

3815

06:56:23,468 --> 06:55:54,660

buckwife two

3816

06:56:30,650 --> 06:56:26,810

all right I got a good torque at 2.5

3817

06:56:33,468 --> 06:56:30,660

pounds 0.23 turns

3818

06:56:38,090 --> 06:56:33,478

okay copy we would like the same thing

3819

06:56:50,448 --> 06:56:42,368

full Bravo Alpha One clockwise two

3820

06:56:54,890 --> 06:56:53,030

Bowen continues to

3821

06:56:57,590 --> 06:56:54,900

to drive the structural bolts he was

3822

06:56:59,810 --> 06:56:57,600

able to release earlier today

3823

06:57:03,288 --> 06:56:59,820

however that Center jacking bolt which

3824

06:57:05,030 --> 06:57:03,298

is now missing was sheared off

3825

06:57:08,208 --> 06:57:05,040

and the rfg

3826

06:57:09,948 --> 06:57:08,218

was still attached to its stanchion

3827

06:57:13,010 --> 06:57:09,958

therefore it will not be brought inside

3828

06:57:19,250 --> 06:57:16,128

redriving these bolts allows the rfg to

3829

06:57:25,310 --> 06:57:19,260

remain secure outside the station

3830

06:57:25,320 --> 06:57:39,310

okay we copied 10.77 stand by one

3831

06:57:39,320 --> 06:57:44,030

electric mode

3832

06:57:48,890 --> 06:57:46,128

we're gonna back off half a turn and

3833

06:58:05,750 --> 06:57:48,900

then we're going to put it with the mtl

3834

06:58:09,890 --> 06:58:07,490

okay Steve we're going to have you do

3835

06:58:11,448 --> 06:58:09,900

next is that those the second three that

3836

06:58:14,150 --> 06:58:11,458

we just drove straight in

3837

06:58:17,448 --> 06:58:14,160

uh with Alpha One uh we're going to take

3838

06:58:19,968 --> 06:58:17,458

your PGT back to ratchet and we're going

3839

06:58:22,128 --> 06:58:19,978

to wreckage climber clockwise and we're

3840

06:58:24,048 --> 06:58:22,138

going to have you release it half a turn

3841

06:58:26,628 --> 06:58:24,058

and then after that we're going to have

3842

06:58:28,250 --> 06:58:26,638

you ratchet uh all the way in just like

3843

06:58:29,448 --> 06:58:28,260

you did on the far left bolt so the

3844

06:58:32,570 --> 06:58:29,458

first thing you want to do right now is

3845

06:58:35,150 --> 06:58:32,580

put your cgt in Ratchet counterclockwise

3846

06:58:40,788 --> 06:58:35,160

and we're going to release half a turn

3847

06:58:40,798 --> 06:58:44,150

counterclockwise

3848

06:58:50,690 --> 06:58:47,170

and I will

3849

06:58:52,670 --> 06:58:50,700

release those three bolts I just drove

3850

06:58:54,890 --> 06:58:52,680

Reserve

3851
06:58:56,208 --> 06:58:54,900
that's good words this is just to save

3852
06:58:59,628 --> 06:58:56,218
you from having to go back and forth

3853
06:59:01,490 --> 06:58:59,638
between the regular and Ratchet

3854
06:59:04,128 --> 06:59:01,500
I appreciate it

3855
06:59:14,208 --> 06:59:05,990
great turns and you can do that on the

3856
06:59:23,270 --> 06:59:16,310
after

3857
06:59:31,070 --> 06:59:24,410
all right

3858
06:59:45,650 --> 06:59:33,230
okay so now you'll go ratchet clockwise

3859
06:59:49,190 --> 06:59:47,690
and Sultan while you're waiting there uh

3860
06:59:50,570 --> 06:59:49,200
we'd like you to take your camera and

3861
06:59:52,310 --> 06:59:50,580
get as many pictures of the back side of

3862
06:59:55,910 --> 06:59:52,320
that rfg at different angles that you

3863
07:00:01,800 --> 06:59:58,968

sure so that's the clockwise

3864

07:00:03,468 --> 07:00:01,810

it feels a 2.5

3865

07:00:07,610 --> 07:00:03,478

[Music]

3866

07:00:07,620 --> 07:00:14,628

we concur

3867

07:00:19,548 --> 07:00:17,750

yep that was about uh but they're a

3868

07:00:22,490 --> 07:00:19,558

little baby a little bit more

3869

07:00:28,730 --> 07:00:22,500

and then come back over here the second

3870

07:00:35,448 --> 07:00:31,788

that was just about a half turn

3871

07:00:40,510 --> 07:00:35,458

what is the last of the four

3872

07:00:44,810 --> 07:00:42,288

as well

3873

07:00:45,708 --> 07:00:44,820

okay those four bolts are all manually

3874

07:00:48,288 --> 07:00:45,718

set

3875

07:00:50,208 --> 07:00:48,298

the torque it through that wow all right

3876
07:01:05,690 --> 07:00:50,218
good words thanks for that Steve you can

3877
07:01:05,700 --> 07:01:18,770
um

3878
07:01:27,548 --> 07:01:20,570
and Steve you can release that large

3879
07:01:27,558 --> 07:01:44,948
that's complete

3880
07:01:44,958 --> 07:01:55,250
big picture

3881
07:02:17,090 --> 07:01:59,270
personal time we'll pick up on page 18.

3882
07:02:21,590 --> 07:02:19,610
we are five hours and 36 minutes into

3883
07:02:23,690 --> 07:02:21,600
today's Space Walk This view from the

3884
07:02:26,510 --> 07:02:23,700
helmet camera of NASA astronaut Steve

3885
07:02:28,128 --> 07:02:26,520
Bowen you're looking at the rfg the

3886
07:02:30,110 --> 07:02:28,138
radio frequency group

3887
07:02:31,788 --> 07:02:30,120
we were unable to remove that from its

3888
07:02:35,390 --> 07:02:31,798

stanchion today the plan was to bring it

3889

07:02:39,048 --> 07:02:35,400

inside for a future refurbishment

3890

07:02:41,390 --> 07:02:39,058

so the astronauts just bolted it back in

3891

07:02:44,510 --> 07:02:41,400

place will remain safe outside the space

3892

07:02:48,288 --> 07:02:46,850

okay big picture we are going to be

3893

07:02:50,868 --> 07:02:48,298

moving a few pages ahead of the

3894

07:02:52,548 --> 07:02:50,878

procedure Sultan will be working esp2

3895

07:02:53,890 --> 07:02:52,558

cleanup and Steve you're going to be

3896

07:02:57,468 --> 07:02:53,900

working

3897

07:02:59,628 --> 07:02:57,478

ssrms cleanup and so let me know if this

3898

07:03:01,190 --> 07:02:59,638

is a good egress position for you or if

3899

07:03:02,628 --> 07:03:01,200

you'd like to go to the published apfr

3900

07:03:07,350 --> 07:03:02,638

egress position in which case we'll hand

3901

07:03:12,230 --> 07:03:09,948

[Music]

3902

07:03:18,890 --> 07:03:12,240

enough

3903

07:03:23,270 --> 07:03:21,048

and for sultan we are going to be

3904

07:03:25,548 --> 07:03:23,280

reinstalling that mli so you can

3905

07:03:28,010 --> 07:03:25,558

retrieve the pre-staged large small rut

3906

07:03:29,690 --> 07:03:28,020

that used to tie that back it looks like

3907

07:03:32,628 --> 07:03:29,700

you're already in work and we'll be

3908

07:03:41,208 --> 07:03:32,638

putting that back over the rfg with a 10

3909

07:03:49,010 --> 07:03:43,070

the astronauts are stepping into their

3910

07:03:54,850 --> 07:03:50,810

I'm definitely gonna need to get a

3911

07:04:00,948 --> 07:03:56,810

apfr

3912

07:04:00,958 --> 07:04:12,288

I have still 50 coming to it

3913

07:04:16,070 --> 07:04:14,570

Steve Owen on the left wearing the red

3914

07:04:17,628 --> 07:04:16,080

striped suit is removing the

3915

07:04:23,830 --> 07:04:17,638

articulating portable foot restraint

3916

07:04:28,850 --> 07:04:26,628

on the right is going to be recovering

3917

07:04:30,410 --> 07:04:28,860

the hardware that the teams were working

3918

07:04:33,110 --> 07:04:30,420

to remove with that multi-layer

3919

07:04:35,150 --> 07:04:33,120

insulation to keep it protected and for

3920

07:04:36,948 --> 07:04:35,160

uh for Steve if uh or actually Steve

3921

07:04:38,868 --> 07:04:36,958

warselton uh whoever's at a best

3922

07:04:40,968 --> 07:04:38,878

position to do it uh we also would like

3923

07:04:43,070 --> 07:04:40,978

some still photos of the front side of

3924

07:04:45,350 --> 07:04:43,080

that rfg where the broken bolt is

3925

07:04:48,110 --> 07:04:45,360

and for Steve if you could give us a

3926

07:04:49,850 --> 07:04:48,120

look at the Lee in and around the league

3927

07:04:51,048 --> 07:04:49,860

we know that those two washers kind of

3928

07:04:53,030 --> 07:04:51,058

floated off we just want to make sure

3929

07:04:55,548 --> 07:04:53,040

that they're not uh somewhere obvious

3930

07:04:57,890 --> 07:04:55,558

around the end of our arm

3931

07:05:05,208 --> 07:04:57,900

okay

3932

07:05:19,310 --> 07:05:06,830

we're going to get closer I'll climb out

3933

07:05:22,850 --> 07:05:21,590

okay and Steve it's your choice if you

3934

07:05:25,670 --> 07:05:22,860

want to climb out there or wait till you

3935

07:05:32,030 --> 07:05:25,680

take the apfr off

3936

07:05:37,128 --> 07:05:34,990

I don't know if that helps that much

3937

07:05:39,590 --> 07:05:37,138

pretty good shot with your helmet cam

3938

07:05:43,910 --> 07:05:42,230

that's what I was hoping if I can get a

3939

07:05:46,730 --> 07:05:43,920

I want to get a more direct on view

3940

07:05:46,740 --> 07:05:56,150

not sure if that's a little bit better

3941

07:06:02,288 --> 07:05:57,830

could have them reposition I could look

3942

07:06:08,270 --> 07:06:06,048

yeah and uh your call Steve if you don't

3943

07:06:11,390 --> 07:06:08,280

see anything any fat in that area then

3944

07:06:14,270 --> 07:06:11,400

that's uh that's good with us

3945

07:06:15,770 --> 07:06:14,280

I don't see any flawed I can't check the

3946

07:06:17,628 --> 07:06:15,780

well that would have been in the wrong

3947

07:06:20,270 --> 07:06:17,638

direction what about

3948

07:06:23,570 --> 07:06:20,280

can't see the uh

3949

07:06:25,310 --> 07:06:23,580

the wires

3950

07:06:27,410 --> 07:06:25,320

that are immediately next to me whatever

3951
07:06:29,270 --> 07:06:27,420
her face that is at this point

3952
07:06:31,548 --> 07:06:29,280
yeah

3953
07:06:33,288 --> 07:06:31,558
I can't see the app why everything else

3954
07:06:35,448 --> 07:06:33,298
is clear

3955
07:06:39,590 --> 07:06:35,458
okay that's uh see we're ready to

3956
07:06:44,370 --> 07:06:42,830
all right um

3957
07:06:48,670 --> 07:06:44,380
actually let me see if I can reach my

3958
07:06:53,570 --> 07:06:51,288
get this thing out

3959
07:06:55,310 --> 07:06:53,580
uh Woody I don't know if you guys can

3960
07:06:57,468 --> 07:06:55,320
pitch

3961
07:06:59,270 --> 07:06:57,478
the end effector

3962
07:07:01,968 --> 07:06:59,280
half

3963
07:07:03,468 --> 07:07:01,978

I'll show what direction that is

3964

07:07:05,448 --> 07:07:03,478

third quarter and then I can look

3965

07:07:08,690 --> 07:07:05,458

straight down the barrel with the speed

3966

07:07:10,190 --> 07:07:08,700

if there's anything on the stairs

3967

07:07:12,590 --> 07:07:10,200

in the uh

3968

07:07:14,628 --> 07:07:12,600

the other mechanism

3969

07:07:17,270 --> 07:07:14,638

okay that's a good report Steve we're

3970

07:07:20,390 --> 07:07:17,280

going to get you moving uh off the arm

3971

07:07:22,850 --> 07:07:20,400

and uh if you want the uh Frank to move

3972

07:07:24,288 --> 07:07:22,860

the arm to the publish APF or egress and

3973

07:07:25,788 --> 07:07:24,298

removal position we just want you to be

3974

07:07:26,790 --> 07:07:25,798

aware that your state futather base is

3975

07:07:30,708 --> 07:07:26,800

still there

3976

07:07:36,410 --> 07:07:34,070

I agree so um

3977

07:07:39,830 --> 07:07:36,420

and uh Woody I'm ready for you to move

3978

07:07:42,948 --> 07:07:39,840

the arm to the topless

3979

07:07:45,230 --> 07:07:42,958

V8 egress position

3980

07:07:47,468 --> 07:07:45,240

okay see if we copy we're setting up for

3981

07:07:52,190 --> 07:07:47,478

that now for awareness that's just about

3982

07:07:55,430 --> 07:07:52,200

22 centimeters station Nader

3983

07:07:57,650 --> 07:07:55,440

okay I really need to come

3984

07:08:14,300 --> 07:07:57,660

oh my God

3985

07:08:49,070 --> 07:08:26,550

[Applause]

3986

07:08:49,080 --> 07:09:22,368

healthy motion that was me

3987

07:09:27,350 --> 07:09:24,890

what have you got

3988

07:09:29,208 --> 07:09:27,360

you see we're going to begin GCA and

3989

07:09:34,610 --> 07:09:29,218

we're going to start with your 20

3990

07:09:57,830 --> 07:09:34,620

centimeters of station Nader motion okay

3991

07:10:02,448 --> 07:10:00,468

NASA astronaut Woody hoberg

3992

07:10:06,770 --> 07:10:02,458

40 centimeters of station Port starting

3993

07:10:06,780 --> 07:10:13,250

hoberg is inside

3994

07:10:13,260 --> 07:10:27,890

View let's stop there for a minute

3995

07:10:27,900 --> 07:10:38,150

patience

3996

07:10:43,968 --> 07:10:41,448

and 10 tier 20.

3997

07:10:44,990 --> 07:10:43,978

that's a good positions out there the

3998

07:10:49,448 --> 07:10:45,000

whole position

3999

07:10:49,458 --> 07:10:58,968

centimeters stationed

4000

07:11:10,490 --> 07:11:00,350

happy thanks for watching the clearance

4001

07:11:14,270 --> 07:11:11,650

yeah

4002

07:11:16,310 --> 07:11:14,280

that should do it I hope

4003

07:11:17,448 --> 07:11:16,320

copy whole position thank you for the

4004

07:11:19,490 --> 07:11:17,458

brakes on I think they can get

4005

07:11:22,128 --> 07:11:19,500

everything else taken care of here

4006

07:11:27,110 --> 07:11:22,138

we copy GCA complete

4007

07:11:28,910 --> 07:11:27,120

brakes are on all right thank you

4008

07:11:30,770 --> 07:11:28,920

okay and before we get into your tether

4009

07:11:32,030 --> 07:11:30,780

swamp a couple more words for sultan and

4010

07:11:33,708 --> 07:11:32,040

the cleanup uh you're going to do those

4011

07:11:34,968 --> 07:11:33,718

10 quarter turn Fasteners and then

4012

07:11:36,830 --> 07:11:34,978

you're going to be looking to Stow the

4013

07:11:38,990 --> 07:11:36,840

large small red back into crew lock bag

4014

07:11:42,288 --> 07:11:39,000

one and then we'll get ready for a crew

4015

07:11:44,750 --> 07:11:42,298

lock bag one inventory

4016

07:11:46,128 --> 07:11:44,760

for Steve yeah we are ready for your

4017

07:11:48,170 --> 07:11:46,138

safety tether swap so when you have a

4018

07:11:50,570 --> 07:11:48,180

local down I will redo the steps when

4019

07:11:52,430 --> 07:11:50,580

you're in position

4020

07:11:59,868 --> 07:11:52,440

okay

4021

07:12:04,610 --> 07:12:01,548

I have my right

4022

07:12:09,230 --> 07:12:04,620

step it down okay qualified a lot

4023

07:12:09,240 --> 07:12:14,090

even extenders

4024

07:12:14,100 --> 07:12:17,208

yes

4025

07:12:17,218 --> 07:12:40,570

I will just do that directly

4026
07:12:45,110 --> 07:12:43,430
and let's do it though I gotta pick up

4027
07:12:48,170 --> 07:12:45,120
the green hook

4028
07:12:50,690 --> 07:12:48,180
that I'll transfer it out to

4029
07:12:59,208 --> 07:12:50,700
yep I can read it behind me that's the

4030
07:12:59,218 --> 07:13:29,110
to live behind me

4031
07:13:34,430 --> 07:13:31,968
Sultan might be able to help out with

4032
07:13:35,570 --> 07:13:34,440
that rail Sultan if you look to your

4033
07:13:37,548 --> 07:13:35,580
left

4034
07:13:43,190 --> 07:13:37,558
you might be able to help Steve out with

4035
07:13:55,150 --> 07:13:44,868
first coffee off

4036
07:14:02,090 --> 07:13:57,650
what you have now

4037
07:14:02,100 --> 07:14:07,250
eight times between your legs yeah

4038
07:14:07,260 --> 07:14:10,910

if you're not perfect thank you

4039

07:14:15,410 --> 07:14:13,070

so thank you for all you do

4040

07:14:17,628 --> 07:14:15,420

all right great job so Steve your first

4041

07:14:19,368 --> 07:14:17,638

uh your first step is going to be to

4042

07:14:24,770 --> 07:14:19,378

either lock or tether to the green

4043

07:14:37,490 --> 07:14:27,770

and put a hook on

4044

07:14:42,708 --> 07:14:40,730

okay they're a large threat on it okay

4045

07:14:43,968 --> 07:14:42,718

you can retrieve your green hook and

4046

07:14:46,310 --> 07:14:43,978

you're going to attach the green hook

4047

07:14:52,128 --> 07:14:46,320

with the gate closed and hook locked to

4048

07:14:52,138 --> 07:15:00,948

custom work

4049

07:15:00,958 --> 07:15:24,288

ah

4050

07:15:29,990 --> 07:15:26,150

big green hook

4051
07:15:31,610 --> 07:15:30,000
is the red one of the real

4052
07:15:38,930 --> 07:15:31,620
that's complete

4053
07:15:43,548 --> 07:15:41,390
copy the green Hook is locked you now go

4054
07:15:48,590 --> 07:15:43,558
to release your yellow Hook from the

4055
07:15:48,600 --> 07:16:52,788
all right we'll release the yellow okay

4056
07:17:24,128 --> 07:16:54,650
ah

4057
07:17:29,930 --> 07:17:26,628
astronauts Steve Bowen and Sultan

4058
07:17:32,510 --> 07:17:29,940
al-nayadi are cleaning up their work

4059
07:17:36,650 --> 07:17:34,190
all the audience reinstalling the

4060
07:17:43,730 --> 07:17:36,660
multi-layer insulation over the s-band

4061
07:17:48,468 --> 07:17:46,190
we're about 45 seconds to a Handover and

4062
07:17:50,868 --> 07:17:48,478
Steve once you get your yellow Hook from

4063
07:17:52,548 --> 07:17:50,878

the ssrms handrail tether Point you're

4064

07:17:56,750 --> 07:17:52,558

going to be attaching it to the green

4065

07:17:56,760 --> 07:19:14,868

Bobby

4066

07:19:19,490 --> 07:19:16,610

we're in another Handover of the

4067

07:19:20,990 --> 07:19:19,500

tracking data and relay satellite system

4068

07:19:23,270 --> 07:19:21,000

the astronauts aboard the International

4069

07:19:26,208 --> 07:19:23,280

Space Station began their spacewalk five

4070

07:19:28,010 --> 07:19:26,218

hours and 53 minutes ago

4071

07:19:30,708 --> 07:19:28,020

this is planned six and a half hour

4072

07:19:32,750 --> 07:19:30,718

spacewalk

4073

07:19:35,868 --> 07:19:32,760

the first major task was completed

4074

07:19:38,990 --> 07:19:35,878

flawlessly when the astronauts routed

4075

07:19:42,230 --> 07:19:39,000

the irosa Cable Bundle

4076
07:19:46,368 --> 07:19:42,240
they also installed and secured some

4077
07:19:54,110 --> 07:19:49,250
on The Mod kits where future irosas will

4078
07:19:59,510 --> 07:19:56,390
the second major task today was to

4079
07:20:03,110 --> 07:19:59,520
remove the rfg the

4080
07:20:05,628 --> 07:20:03,120
radio frequency group from its stanchion

4081
07:20:07,548 --> 07:20:05,638
this is part of the s-band antenna

4082
07:20:09,890 --> 07:20:07,558
however the uh

4083
07:20:12,170 --> 07:20:09,900
crew ran into some trouble with one bolt

4084
07:20:14,270 --> 07:20:12,180
that was stuck and eventually sheared

4085
07:20:16,610 --> 07:20:14,280
off and were unable to remove it from

4086
07:20:18,468 --> 07:20:16,620
the stanchion therefore they re-secured

4087
07:20:36,708 --> 07:20:18,478
it and have now moved into their cleanup

4088
07:20:36,718 --> 07:20:43,190

uh

4089

07:20:43,200 --> 07:20:59,760

foreign

4090

07:20:59,770 --> 07:21:04,448

[Music]

4091

07:21:09,110 --> 07:21:06,410

okay good word Steve we understand

4092

07:21:11,090 --> 07:21:09,120

yellow Hook is locked and on your green

4093

07:21:16,448 --> 07:21:11,100

Rail and you unlocked it so you do have

4094

07:21:25,250 --> 07:21:18,890

all right I understand that we could

4095

07:21:25,260 --> 07:21:29,110

s here

4096

07:21:34,250 --> 07:21:31,490

all right Steve your next step is going

4097

07:21:41,770 --> 07:21:34,260

to be to retrieve the apfr from the arm

4098

07:21:47,510 --> 07:21:45,410

and Sultan we see you working the uh mli

4099

07:21:49,070 --> 07:21:47,520

we do have one Delta step for you on the

4100

07:21:50,510 --> 07:21:49,080

mli we're gonna have to secure that

4101
07:21:52,010 --> 07:21:50,520
clamshell down so when you're at a

4102
07:21:59,770 --> 07:21:52,020
stopping point let me know and I will

4103
07:21:59,780 --> 07:22:20,890
I can work

4104
07:22:25,070 --> 07:22:23,690
this is a view from Steve Bowen's helmet

4105
07:22:26,750 --> 07:22:25,080
camera as he works to remove the

4106
07:22:29,150 --> 07:22:26,760
articulating portable foot restraint

4107
07:22:31,190 --> 07:22:29,160
from the cannon arm too

4108
07:22:36,708 --> 07:22:31,200
going to continue these cleanup steps

4109
07:22:36,718 --> 07:22:42,468
coffee

4110
07:22:42,478 --> 07:23:06,770
you are approaching six hours pet

4111
07:23:25,110 --> 07:23:08,330
together

4112
07:23:25,120 --> 07:23:45,770
[Applause]

4113
07:23:52,670 --> 07:23:48,230

centimeters

4114

07:23:52,680 --> 07:23:56,990

force me

4115

07:23:57,000 --> 07:24:07,368

and that would be stationed

4116

07:24:12,350 --> 07:24:09,650

the brakes are off begin GCA we're going

4117

07:24:14,930 --> 07:24:12,360

to start with a motion station forward

4118

07:24:16,250 --> 07:24:14,940

30 centimeters and then we'll come

4119

07:24:21,890 --> 07:24:16,260

station port

4120

07:24:21,900 --> 07:24:34,190

starting motion station forward

4121

07:24:42,530 --> 07:24:36,048

good motion

4122

07:25:01,368 --> 07:24:45,048

to go

4123

07:25:10,128 --> 07:25:04,730

you can stop at that time

4124

07:25:12,650 --> 07:25:10,138

okay copy Steve that's your 20 now uh 30

4125

07:25:18,288 --> 07:25:12,660

centimeter station port

4126
07:25:18,298 --> 07:25:21,730
we'll assess them there

4127
07:25:21,740 --> 07:25:38,448
station port all right

4128
07:25:38,458 --> 07:25:59,628
foreign

4129
07:25:59,638 --> 07:26:03,530
40 centimeters

4130
07:26:13,510 --> 07:26:05,390
do we copy additional four zero

4131
07:26:13,520 --> 07:26:18,288
any good motion

4132
07:26:22,070 --> 07:26:19,968
six hours since the start of the

4133
07:26:23,868 --> 07:26:22,080
spacewalk NASA astronaut Woody whoberg

4134
07:26:31,910 --> 07:26:23,878
inside the space station is maneuvering

4135
07:26:35,150 --> 07:26:33,110
okay

4136
07:26:36,770 --> 07:26:35,160
the inner astronauts outside are working

4137
07:26:38,390 --> 07:26:36,780
through their cleanup tasks and

4138
07:26:40,368 --> 07:26:38,400

preparing to Ingress after those are

4139

07:26:43,150 --> 07:26:40,378

complete

4140

07:26:47,030 --> 07:26:43,160

did you do that for 40. okay

4141

07:26:49,250 --> 07:26:47,040

then bring me a station here we can add

4142

07:26:58,850 --> 07:26:49,260

30 centimeters

4143

07:26:58,860 --> 07:27:06,890

turning money

4144

07:27:06,900 --> 07:27:14,390

you need to go

4145

07:27:20,868 --> 07:27:19,010

and then just stop at the 15.

4146

07:27:25,390 --> 07:27:20,878

and Steve that's your 30 centimeters

4147

07:27:31,190 --> 07:27:27,110

I'm here

4148

07:27:42,590 --> 07:27:32,350

all right

4149

07:27:45,048 --> 07:27:42,600

sultan and I'm ready for uh

4150

07:27:47,570 --> 07:27:45,058

perfect uh I have words for you so we're

4151
07:27:49,190 --> 07:27:47,580
going to have you take an AET from your

4152
07:27:50,990 --> 07:27:49,200
mws

4153
07:27:53,750 --> 07:27:51,000
and we're going to go over to the

4154
07:27:56,390 --> 07:27:53,760
clamshell mli so we basically need to

4155
07:27:57,890 --> 07:27:56,400
recreate the strap that we cut earlier

4156
07:28:00,650 --> 07:27:57,900
and the way that we're going to do that

4157
07:28:03,110 --> 07:28:00,660
is we're going to have you Loop the AET

4158
07:28:04,670 --> 07:28:03,120
through the clamshell handrail so it

4159
07:28:07,128 --> 07:28:04,680
can't be a hook to the handrail it's got

4160
07:28:08,448 --> 07:28:07,138
to be looped through and hook to itself

4161
07:28:10,730 --> 07:28:08,458
and then you're going to take the hook

4162
07:28:12,890 --> 07:28:10,740
end of the AET and on the other side of

4163
07:28:14,810 --> 07:28:12,900

the rfg from where you're at there are

4164

07:28:16,968 --> 07:28:14,820

some there's some black seams along that

4165

07:28:26,750 --> 07:28:16,978

velcro seam and you're gonna you can

4166

07:28:32,448 --> 07:28:29,390

okay I don't see any black

4167

07:28:35,448 --> 07:28:34,190

yeah but it's just on the other side of

4168

07:28:39,788 --> 07:28:35,458

that if you translate around to your

4169

07:28:45,468 --> 07:28:43,730

I mean the stiff side

4170

07:28:47,208 --> 07:28:45,478

yeah good word so it's over on Steve's

4171

07:28:48,830 --> 07:28:47,218

side it's kind of that velcro seam it's

4172

07:28:50,628 --> 07:28:48,840

right along where that velcro theme was

4173

07:28:52,730 --> 07:28:50,638

that uh that you buttoned up when you

4174

07:28:54,468 --> 07:28:52,740

put it back on and there should be some

4175

07:28:59,120 --> 07:28:54,478

black loops

4176

07:29:16,990 --> 07:29:01,850

[Music]

4177

07:29:17,000 --> 07:29:20,770

is removed

4178

07:29:24,830 --> 07:29:22,968

okay Steve that's going to go on your

4179

07:29:27,830 --> 07:29:24,840

brt and you're going to be heading out

4180

07:29:29,810 --> 07:29:27,840

to the port Cedar cart via the same path

4181

07:29:35,990 --> 07:29:29,820

that you took this way so all over the

4182

07:29:39,590 --> 07:29:37,730

and you'll be picking up that uh

4183

07:29:46,730 --> 07:29:39,600

ceremony that you left with the AET

4184

07:29:46,740 --> 07:29:50,330

all right I'm putting that in work

4185

07:30:09,230 --> 07:29:53,390

remember my feather for once

4186

07:30:12,890 --> 07:30:11,690

and Steve as you translate uh we

4187

07:30:14,390 --> 07:30:12,900

appreciate if you double check the

4188

07:30:20,570 --> 07:30:14,400

Ingress Aid to make sure that it's

4189

07:30:20,580 --> 07:30:32,448

Earth

4190

07:30:32,458 --> 07:31:19,810

foreign

4191

07:31:37,610 --> 07:31:28,210

[Music]

4192

07:31:37,620 --> 07:31:47,810

uh

4193

07:31:53,530 --> 07:31:50,660

foreign

4194

07:31:56,448 --> 07:31:53,540

[Music]

4195

07:31:58,788 --> 07:31:56,458

you can just position that hook on one

4196

07:32:01,010 --> 07:31:58,798

of those black tether loops

4197

07:32:03,170 --> 07:32:01,020

whichever one you think is the best fit

4198

07:32:05,570 --> 07:32:03,180

and then again the AET is going to get

4199

07:32:23,770 --> 07:32:05,580

looped through the clamshell handrail

4200

07:32:28,670 --> 07:32:26,270

the robotic arm is going to be

4201
07:32:32,890 --> 07:32:28,680
maneuvering station forward away from

4202
07:33:15,048 --> 07:32:35,208
thank you

4203
07:33:15,058 --> 07:34:26,150
foreign

4204
07:34:30,288 --> 07:34:27,948
back

4205
07:34:31,968 --> 07:34:30,298
move on the 10th

4206
07:34:33,650 --> 07:34:31,978
we have a few site all right good work

4207
07:34:35,270 --> 07:34:33,660
Sultan we saw the same thing we'd like

4208
07:34:37,788 --> 07:34:35,280
that config so we're going to have you

4209
07:34:39,650 --> 07:34:37,798
head back over to crew lock bag one

4210
07:34:41,330 --> 07:34:39,660
and there was a large small that you had

4211
07:34:48,468 --> 07:34:41,340
pre-staged outside of that we want to

4212
07:34:55,690 --> 07:34:51,890
s but I need to do two more Fasteners

4213
07:34:55,700 --> 07:35:06,530

the fourth side

4214

07:35:06,540 --> 07:35:16,430

together

4215

07:35:20,030 --> 07:35:18,048

and for Big Picture she'll tongue when

4216

07:35:21,890 --> 07:35:20,040

you go back in three

4217

07:35:32,750 --> 07:35:21,900

and uh yes for Steve you're going back

4218

07:35:37,910 --> 07:35:35,030

thank you

4219

07:35:43,868 --> 07:35:37,920

and your settings are six papa papa fox

4220

07:35:49,490 --> 07:35:46,628

fox six

4221

07:35:51,048 --> 07:35:49,500

good words and for sultan as you get

4222

07:35:52,430 --> 07:35:51,058

back to their crew lock bag I'm going to

4223

07:35:53,690 --> 07:35:52,440

have you check a couple items we're not

4224

07:35:55,010 --> 07:35:53,700

going to do a full crew Block Bag

4225

07:35:56,990 --> 07:35:55,020

inventory but I'm going to have you

4226
07:36:04,610 --> 07:35:57,000
check off a couple items that we used on

4227
07:36:33,430 --> 07:36:06,730
okay and uh

4228
07:36:39,350 --> 07:36:36,170
Bowen and on the Audi continue cleanup

4229
07:36:41,390 --> 07:36:39,360
procedures during today's spacewalk

4230
07:36:43,368 --> 07:36:41,400
as you can see the articulating portable

4231
07:36:45,410 --> 07:36:43,378
foot restraint has been removed from the

4232
07:36:48,170 --> 07:36:45,420
Canon arm too

4233
07:36:52,190 --> 07:36:48,180
meanwhile al-nayadi has been covering

4234
07:36:55,190 --> 07:36:52,200
the s-band antenna with the mli that was

4235
07:37:03,770 --> 07:36:55,200
removed prior to attempts to remove the

4236
07:37:03,780 --> 07:38:03,350
because

4237
07:38:07,250 --> 07:38:05,330
all right

4238
07:38:09,910 --> 07:38:07,260

I've got a black owned back with a good

4239

07:38:15,230 --> 07:38:09,920

wiggle pull test

4240

07:38:19,670 --> 07:38:18,048

if I could fill in place

4241

07:38:21,170 --> 07:38:19,680

okay copy Stephen can you just double

4242

07:38:25,850 --> 07:38:21,180

check the pitch knob is locked and it

4243

07:38:30,770 --> 07:38:28,968

this last knob is locked it can be

4244

07:38:35,990 --> 07:38:30,780

depressed

4245

07:38:38,868 --> 07:38:36,000

what is the caller for these uh

4246

07:38:41,448 --> 07:38:38,878

rear saturation mechanism

4247

07:38:42,530 --> 07:38:41,458

uh it again gave me the indication that

4248

07:38:45,830 --> 07:38:42,540

it was

4249

07:38:52,670 --> 07:38:49,128

it uh was not locked

4250

07:38:54,048 --> 07:38:52,680

and it wouldn't wouldn't stay in place

4251

07:38:56,810 --> 07:38:54,058

um

4252

07:38:58,430 --> 07:38:56,820

and it was

4253

07:38:59,930 --> 07:38:58,440

I actually took a try to take it back

4254

07:39:02,570 --> 07:38:59,940

out and pushed it back in to get his

4255

07:39:05,150 --> 07:39:02,580

gold black on blackboard it's in now but

4256

07:39:07,670 --> 07:39:05,160

I don't have high confidence in uh

4257

07:39:10,070 --> 07:39:07,680

collar on this one

4258

07:39:11,448 --> 07:39:10,080

it was difficult to move the caller okay

4259

07:39:13,730 --> 07:39:11,458

yeah we copy thanks for those words

4260

07:39:16,250 --> 07:39:13,740

Steve and we've got those notes down

4261

07:39:18,410 --> 07:39:16,260

um so at this point you are actually

4262

07:39:22,368 --> 07:39:18,420

going to give me a 11 half inspection

4263

07:39:22,378 --> 07:39:29,628

okay let me get this right off the apfr

4264

07:39:33,048 --> 07:39:31,368

first Sultan uh we want you to double

4265

07:39:34,610 --> 07:39:33,058

check on that crew lock bag that you

4266

07:39:42,770 --> 07:39:34,620

picked up the large small that we had

4267

07:39:48,048 --> 07:39:46,190

the thermostat it's uh we'll get it back

4268

07:39:49,730 --> 07:39:48,058

again

4269

07:39:51,350 --> 07:39:49,740

copy and then we want you to verify that

4270

07:39:59,580 --> 07:39:51,360

the hammer and the pry bar are in the

4271

07:40:04,850 --> 07:40:01,390

[Music]

4272

07:40:07,010 --> 07:40:04,860

and the cool effects

4273

07:40:08,990 --> 07:40:07,020

and it can compare from my view as well

4274

07:40:10,850 --> 07:40:09,000

okay copy and then the other last two

4275

07:40:13,310 --> 07:40:10,860

things we want to check is the wire tie

4276

07:40:15,530 --> 07:40:13,320

caddy and then the two wire ties in

4277

07:40:20,510 --> 07:40:15,540

series that you had put together uh to

4278

07:40:20,520 --> 07:40:22,990

okay

4279

07:40:23,000 --> 07:40:28,430

caddies is inside just checking for the

4280

07:40:42,190 --> 07:40:31,368

foreign

4281

07:40:45,590 --> 07:40:44,750

you're going to put that on your brt and

4282

07:40:47,810 --> 07:40:45,600

then we're going to have you translate

4283

07:40:49,490 --> 07:40:47,820

back over to where you installed the AET

4284

07:40:50,990 --> 07:40:49,500

and I'm going to have you do one quick

4285

07:40:59,330 --> 07:40:51,000

adjustment on it on your way back to the

4286

07:41:06,288 --> 07:41:03,708

hi and I love to give my happiness right

4287

07:41:08,570 --> 07:41:06,298

copy Steve so you can translate off of

4288

07:41:11,270 --> 07:41:08,580

the seated cart and as you do so please

4289

07:41:13,250 --> 07:41:11,280

depress the port C to break pedals twice

4290

07:41:18,830 --> 07:41:13,260

as you go by and then you can translate

4291

07:42:10,910 --> 07:41:20,690

Port need a break

4292

07:42:10,920 --> 07:42:14,570

twice

4293

07:42:14,580 --> 07:43:06,170

and we copy the brick pedals thank you

4294

07:43:14,628 --> 07:43:07,850

and Steve sure we'll take it as you go

4295

07:43:44,090 --> 07:43:16,788

e and we are about five minutes from

4296

07:43:51,110 --> 07:43:47,690

yeah we'll look back to

4297

07:43:53,570 --> 07:43:51,120

fbrc ready for uh

4298

07:43:56,448 --> 07:43:53,580

I'm sure extra work

4299

07:43:57,890 --> 07:43:56,458

yeah so the AET we had you Loop one side

4300

07:44:00,110 --> 07:43:57,900

on the clam shell and then the other

4301
07:44:01,490 --> 07:44:00,120
side we said to hook it what we'd like

4302
07:44:03,708 --> 07:44:01,500
you to do is just take that side that

4303
07:44:05,208 --> 07:44:03,718
you hooked and unhook it and loop it

4304
07:44:07,128 --> 07:44:05,218
through just like you did the other side

4305
07:44:08,390 --> 07:44:07,138
so therefore both sides are looped

4306
07:44:10,968 --> 07:44:08,400
through and hooked back to the AET

4307
07:44:20,030 --> 07:44:13,250
together

4308
07:44:23,810 --> 07:44:21,850
foreign

4309
07:44:29,170 --> 07:44:23,820
reminder you're looking for a mile

4310
07:44:33,350 --> 07:44:31,430
yeah I thought they could uh maybe I

4311
07:44:35,030 --> 07:44:33,360
could run down and put those other two

4312
07:44:41,990 --> 07:44:35,040
bags back in the crew lock

4313
07:44:42,000 --> 07:44:47,930

how does that sound for playing

4314

07:44:54,288 --> 07:44:49,310

with that

4315

07:45:10,070 --> 07:45:02,090

okay

4316

07:45:37,610 --> 07:45:10,080

we appreciate that Sultan and so now you

4317

07:45:41,030 --> 07:45:39,410

so as you get back to the airlock you

4318

07:45:43,430 --> 07:45:41,040

can coordinate how you guys want to get

4319

07:45:45,948 --> 07:45:43,440

things back in we have uh crew lock bag

4320

07:45:48,948 --> 07:45:45,958

2 and crew lock bag three above the

4321

07:45:58,190 --> 07:45:48,958

airlock toolboxes and we have the GoPro

4322

07:46:01,788 --> 07:45:58,868

s

4323

07:46:04,368 --> 07:46:01,798

all right Sultan I'm right here

4324

07:46:05,690 --> 07:46:04,378

I can hand you down the back

4325

07:46:07,548 --> 07:46:05,700

so

4326
07:46:08,690 --> 07:46:07,558
once again let's just put your coolant

4327
07:46:16,330 --> 07:46:08,700
bag in

4328
07:46:21,410 --> 07:46:19,128
this is Mission Control Houston we have

4329
07:46:22,548 --> 07:46:21,420
a Handover of our satellites that allow

4330
07:46:25,310 --> 07:46:22,558
us to communicate with the International

4331
07:46:27,110 --> 07:46:25,320
Space Station both astronauts Steve

4332
07:46:29,750 --> 07:46:27,120
Bowen and Sultan al-nayari have

4333
07:46:32,030 --> 07:46:29,760
completed the cleanup portion of today's

4334
07:46:39,590 --> 07:46:32,040
spacewalk they are now moving back

4335
07:46:49,250 --> 07:46:41,570
they have a couple bags to retrieve that

4336
07:47:12,110 --> 07:46:53,030
afterward both astronauts will close the

4337
07:47:12,120 --> 07:47:17,570
I can open the thermal cover

4338
07:47:22,250 --> 07:47:19,968

and we have a thermal cover open and a

4339

07:47:24,530 --> 07:47:22,260

reminder you have three large small reps

4340

07:47:34,250 --> 07:47:24,540

on that degree extender uh one for each

4341

07:47:34,260 --> 07:48:07,930

coffee yeah thanks

4342

07:48:12,468 --> 07:48:10,310

Sultan just for your awareness we're

4343

07:48:14,810 --> 07:48:12,478

looking at the scu's a good call by your

4344

07:48:16,368 --> 07:48:14,820

crewmate inside and just note that both

4345

07:48:17,868 --> 07:48:16,378

of the seus are kind of routed on the

4346

07:48:19,910 --> 07:48:17,878

forward side of the airlock so before

4347

07:48:22,788 --> 07:48:19,920

you Ingress uh you may want to move

4348

07:48:29,860 --> 07:48:22,798

Steves onto the outside of the airlock

4349

07:48:29,870 --> 07:48:56,388

[Music]

4350

07:49:01,010 --> 07:48:59,270

you can get the the GoPro while I run

4351
07:49:03,288 --> 07:49:01,020
out to the

4352
07:49:21,048 --> 07:49:03,298
all right

4353
07:49:21,058 --> 07:49:34,788
um

4354
07:51:51,590 --> 07:50:55,190
foreign

4355
07:51:59,690 --> 07:51:54,888
hey shut up I do okay so I'm gonna hook

4356
07:52:01,730 --> 07:51:59,700
through the intelligent extender okay my

4357
07:52:03,288 --> 07:52:01,740
brother was better

4358
07:52:05,330 --> 07:52:03,298
and

4359
07:52:07,010 --> 07:52:05,340
the projects get closed locked back on

4360
07:52:10,250 --> 07:52:07,020
black small hook

4361
07:52:12,888 --> 07:52:10,260
create clothes like black and black

4362
07:52:15,788 --> 07:52:12,898
okay yeah can you use the rest of that

4363
07:52:21,888 --> 07:52:19,730

can you reduce it from your side

4364

07:52:24,888 --> 07:52:21,898

what were you better all right to the

4365

07:52:31,788 --> 07:52:26,690

oh okay hold on a second I got your

4366

07:52:31,798 --> 07:52:43,250

all right

4367

07:52:46,310 --> 07:52:45,410

after I release that wave feather I can

4368

07:52:54,888 --> 07:52:46,320

do that

4369

07:52:59,930 --> 07:52:57,350

and I don't have any place to hook it

4370

07:53:11,930 --> 07:52:59,940

it's released it okay

4371

07:53:18,410 --> 07:53:15,530

this view from sultana's helmet camera

4372

07:53:20,090 --> 07:53:18,420

as he is inside the crew lock portion of

4373

07:53:22,070 --> 07:53:20,100

the quest airlock

4374

07:53:28,250 --> 07:53:22,080

and Steve can you confirm that's both uh

4375

07:53:28,260 --> 07:53:31,910

today okay

4376
07:53:31,920 --> 07:53:42,288
Steve ready all right here's two

4377
07:53:46,250 --> 07:53:44,810
good uh hello

4378
07:53:52,850 --> 07:53:46,260
all right let me try and roll over a

4379
07:53:52,860 --> 07:53:57,770
because yours too

4380
07:54:03,048 --> 07:54:01,490
this view outside the airlock as NASA

4381
07:54:05,150 --> 07:54:03,058
astronaut Steve Bowen prepares to

4382
07:54:10,788 --> 07:54:05,160
Ingress

4383
07:54:23,350 --> 07:54:12,170
okay

4384
07:54:23,360 --> 07:54:27,948
got it let's go

4385
07:54:27,958 --> 07:54:34,850
outside

4386
07:54:34,860 --> 07:54:41,090
please

4387
07:54:45,770 --> 07:54:43,010
the International Space Station recently

4388
07:54:47,628 --> 07:54:45,780

crossed into an orbital date time but in

4389

07:54:57,230 --> 07:54:47,638

the distance you can see Earth's Moon

4390

07:55:01,250 --> 07:54:59,208

I think they really fly rescue back to

4391

07:55:03,170 --> 07:55:01,260

you I guess you're interested here okay

4392

07:55:05,510 --> 07:55:03,180

you can do that but then here comes that

4393

07:55:09,968 --> 07:55:05,520

coming up to you all right all right

4394

07:55:15,490 --> 07:55:14,570

GoPro and then I'll head out and we'll

4395

07:55:18,650 --> 07:55:15,500

see

4396

07:55:20,208 --> 07:55:18,660

yeah so prolox one bags one two and

4397

07:55:22,548 --> 07:55:20,218

three are in the airlock so once we have

4398

07:55:41,270 --> 07:55:22,558

the GoPro in then uh Steve you can also

4399

07:55:41,280 --> 07:55:46,128

yeah the GoPro attached

4400

07:55:46,138 --> 07:55:51,170

copy and we see you translating out

4401
07:55:51,180 --> 07:55:56,410
well thank you I'm going to translate

4402
07:55:56,420 --> 07:56:04,190
right now

4403
07:56:04,200 --> 07:56:08,330
if you're ready to receive this

4404
07:56:08,340 --> 07:56:11,810
is a big hug

4405
07:56:18,288 --> 07:56:13,310
and tell me when you go to the church or

4406
07:56:18,298 --> 07:56:25,968
all right

4407
07:56:31,430 --> 07:56:27,468
I'll give you the big Hook when you get

4408
07:56:31,440 --> 07:56:37,368
I'm gonna head out to the uh

4409
07:56:42,368 --> 07:56:39,590
good word for sure out two mile marker

4410
07:57:06,048 --> 07:56:42,378
5760.

4411
07:57:06,058 --> 07:57:40,940
foreign

4412
07:57:40,950 --> 07:58:21,530
[Applause]

4413
07:58:21,540 --> 07:58:38,510

effective oh perfect

4414

07:58:42,948 --> 07:58:40,788

and just for your awareness the arm is

4415

07:58:48,650 --> 07:58:42,958

going to move a little closer to esp2 no

4416

07:58:48,660 --> 07:59:05,090

you're doing copies

4417

07:59:05,100 --> 07:59:09,288

all right 57.50

4418

07:59:09,298 --> 07:59:31,010

here

4419

07:59:35,090 --> 07:59:32,628

all right Steve as you get set your

4420

07:59:37,610 --> 07:59:35,100

first step is going to be to Rhett to

4421

07:59:42,910 --> 07:59:37,620

ev2's Anchor hook it's the one that's on

4422

07:59:48,770 --> 07:59:47,330

32-17 rep to the Anchor hook all right

4423

08:00:13,128 --> 07:59:48,780

we used to French in the night a little

4424

08:00:17,208 --> 08:00:15,530

this view from the helmet camera of NASA

4425

08:00:19,788 --> 08:00:17,218

astronaut Steve Bowen as he continues

4426
08:00:25,070 --> 08:00:19,798
clean up procedures we are now six hours

4427
08:00:29,208 --> 08:00:27,410
emirati astronaut Sultan onlyati has

4428
08:00:31,788 --> 08:00:29,218
ingressed to the crew lock portion of

4429
08:00:40,788 --> 08:00:31,798
the quest airlock

4430
08:00:43,910 --> 08:00:42,410
so see if you're going to rent to that

4431
08:00:45,770 --> 08:00:43,920
one as you are then you're going to

4432
08:00:48,350 --> 08:00:45,780
release it and hook it to your anchor

4433
08:00:50,510 --> 08:00:48,360
hook or sorry it that anchor hook to

4434
08:00:53,628 --> 08:00:50,520
your waist tether with gate closed

4435
08:00:53,638 --> 08:01:02,270
all right

4436
08:01:02,280 --> 08:01:56,388
let me just say we've had already

4437
08:01:56,398 --> 08:02:10,368
all right

4438
08:02:10,378 --> 08:03:17,930

foreign

4439

08:03:21,350 --> 08:03:19,730

ah

4440

08:04:16,208 --> 08:03:21,360

a

4441

08:04:21,590 --> 08:04:19,490

Hook from 3011

4442

08:04:24,230 --> 08:04:21,600

just to your left and you can stow it on

4443

08:04:24,240 --> 08:04:30,548

all right

4444

08:04:37,490 --> 08:04:34,490

Steve all my bills are

4445

08:04:38,350 --> 08:04:37,500

all hooks are closed locked black and

4446

08:04:40,910 --> 08:04:38,360

black

4447

08:04:43,368 --> 08:04:40,920

attached to the airlock through my waste

4448

08:04:45,350 --> 08:04:43,378

other both hooks are they close lost

4449

08:04:49,910 --> 08:04:45,360

black and black you could go all right

4450

08:05:29,708 --> 08:04:51,770

there we got me Steve and good word

4451
08:05:34,070 --> 08:05:32,208
and Steve As you move inboard just a

4452
08:05:36,410 --> 08:05:34,080
reminder as you go by the aceta cart

4453
08:05:39,410 --> 08:05:36,420
we'd like you to depress those uh brake

4454
08:05:59,150 --> 08:05:40,730
oh

4455
08:06:02,810 --> 08:06:00,948
and Sultan now that Steve's heading back

4456
08:06:05,090 --> 08:06:02,820
your way you are going to remove your

4457
08:06:08,030 --> 08:06:05,100
SCU from the stowage pout and remove

4458
08:06:12,530 --> 08:06:08,040
your DCM cover and connect your SCU to

4459
08:06:12,540 --> 08:06:39,530
well

4460
08:06:44,030 --> 08:06:41,810
having released the necessary anchor

4461
08:06:45,770 --> 08:06:44,040
hook as well as Sultan al-nayadi's

4462
08:06:47,930 --> 08:06:45,780
anchor hook

4463
08:06:52,368 --> 08:06:47,940

Steve Bowen is headed back to the

4464

08:06:52,378 --> 08:06:56,690

Sultan you can also turn your head off

4465

08:06:56,700 --> 08:07:01,208

all right

4466

08:07:05,930 --> 08:07:04,010

The View below Bowen is that of the

4467

08:07:20,030 --> 08:07:05,940

North Pacific Ocean as the space station

4468

08:07:24,288 --> 08:07:22,490

we copy big breaks depressed so you can

4469

08:07:25,788 --> 08:07:24,298

head back to the airlock

4470

08:07:29,150 --> 08:07:25,798

and then you enter the airlock you can

4471

08:07:29,160 --> 08:07:51,410

all right

4472

08:08:31,430 --> 08:08:17,810

foreign

4473

08:08:31,440 --> 08:08:50,030

[Music]

4474

08:08:50,040 --> 08:09:03,048

we understand Queen to Fox6

4475

08:09:09,288 --> 08:09:05,990

this water tie on 554

4476

08:09:18,250 --> 08:09:09,298

uh what's that supposed to do

4477

08:09:22,070 --> 08:09:20,690

so see that's too assists if a thermal

4478

08:09:23,628 --> 08:09:22,080

cover doesn't stay closed so we can

4479

08:09:24,830 --> 08:09:23,638

leave it where it is if you think it

4480

08:09:27,048 --> 08:09:24,840

might be in the way you can set it low

4481

08:09:31,490 --> 08:09:27,058

profile

4482

08:09:34,968 --> 08:09:33,170

good check we appreciate it

4483

08:09:37,610 --> 08:09:34,978

take my legs

4484

08:09:39,590 --> 08:09:37,620

taking my legs in and I'm gonna see if I

4485

08:09:41,690 --> 08:09:39,600

can reach there

4486

08:09:42,888 --> 08:09:41,700

okay we're good to go I have all the

4487

08:09:51,170 --> 08:09:42,898

bags

4488

08:09:51,180 --> 08:09:56,330

come back out and get the

4489

08:09:56,340 --> 08:09:59,510

cover

4490

08:10:08,810 --> 08:10:01,368

good words we'll have you Ingress and

4491

08:10:08,820 --> 08:10:15,948

okay

4492

08:10:20,810 --> 08:10:18,110

and if you both want to this is where

4493

08:10:23,150 --> 08:10:20,820

you can reduce your tcv setting as you

4494

08:10:25,310 --> 08:10:23,160

get on the SCU it has warmer water so to

4495

08:10:28,548 --> 08:10:25,320

minimize risk of fogging you can reduce

4496

08:10:28,558 --> 08:10:35,230

okay

4497

08:10:40,070 --> 08:10:37,850

it's a cover in place

4498

08:10:47,868 --> 08:10:40,080

okay

4499

08:10:47,878 --> 08:10:52,850

I feel like you're coming back then

4500

08:10:57,830 --> 08:10:56,090

all right so I get to start as magnetic

4501
08:10:59,690 --> 08:10:57,840
let's see if you're gonna release the

4502
08:11:01,610 --> 08:10:59,700
hook from the stowage nether point and

4503
08:11:04,250 --> 08:11:01,620
attach the hook to the magnetic plate

4504
08:11:06,468 --> 08:11:04,260
d-ring and then cinch the strap until

4505
08:11:09,590 --> 08:11:06,478
snug six line is visible and you're

4506
08:11:11,650 --> 08:11:09,600
going to verify the magnet and engage

4507
08:11:27,110 --> 08:11:11,660
oh

4508
08:11:27,120 --> 08:11:32,628
another point

4509
08:11:36,650 --> 08:11:34,788
Bowen and on the audio both back inside

4510
08:11:38,570 --> 08:11:36,660
the crew lock portion of the quest

4511
08:11:43,670 --> 08:11:38,580
airlock now closing the thermal cover

4512
08:11:43,680 --> 08:11:48,530
ES

4513
08:11:48,540 --> 08:11:55,968

girl

4514

08:12:02,330 --> 08:11:58,968

okay and the magnet actually looks like

4515

08:12:02,340 --> 08:12:07,270

right here let me adjust my Cooling

4516

08:12:11,510 --> 08:12:09,770

and Steve we can have you turn off your

4517

08:12:13,910 --> 08:12:11,520

Hiccup and then you're going to be

4518

08:12:16,610 --> 08:12:13,920

removing the SCU from its Doge pouch

4519

08:12:19,070 --> 08:12:16,620

removing your DCM cover and installing

4520

08:12:24,830 --> 08:12:19,080

your SCU

4521

08:12:24,840 --> 08:12:32,150

oh

4522

08:12:36,230 --> 08:12:34,128

and a reminder now that you're in if you

4523

08:12:38,208 --> 08:12:36,240

wanted to reduce your TCB setting to a

4524

08:12:42,770 --> 08:12:38,218

lower number to minimize the risk of

4525

08:12:42,780 --> 08:12:46,010

ccess

4526
08:12:55,190 --> 08:12:50,590
and for ev2 I've got my

4527
08:12:57,830 --> 08:12:55,200
SCU connected one PCM and my current PCV

4528
08:13:01,430 --> 08:12:57,840
settings is free

4529
08:13:24,468 --> 08:13:01,440
copy TCB settings for Sultana three and

4530
08:13:27,888 --> 08:13:26,030
all right I'm gonna try to make mine

4531
08:13:31,788 --> 08:13:27,898
colder

4532
08:13:31,798 --> 08:13:35,150
Adam

4533
08:13:46,208 --> 08:13:37,990
is connected

4534
08:13:50,330 --> 08:13:48,530
as well

4535
08:13:52,548 --> 08:13:50,340
I'll provide my letter to you first of

4536
08:13:59,330 --> 08:13:52,558
all thank you I'm not sure what I'm

4537
08:14:03,770 --> 08:14:01,730
it's me I move forward

4538
08:14:14,948 --> 08:14:03,780

thank you

4539

08:14:19,490 --> 08:14:17,388

what does that mean

4540

08:14:19,500 --> 08:14:22,190

okay

4541

08:14:22,200 --> 08:14:25,570

here

4542

08:14:25,580 --> 08:14:32,090

give it to you now

4543

08:14:40,490 --> 08:14:36,170

which way I'll just after your hands

4544

08:14:40,500 --> 08:15:05,750

a lot of you in many ways to Workstation

4545

08:15:05,760 --> 08:15:27,830

I'll stop that clear again

4546

08:15:51,230 --> 08:15:29,510

applicable

4547

08:15:51,240 --> 08:16:14,750

[Music]

4548

08:16:21,910 --> 08:16:17,448

all right my FCU is connected with the

4549

08:16:26,448 --> 08:16:24,468

and see we copy that your SCU is

4550

08:16:29,690 --> 08:16:26,458

connected and locked if you could give

4551
08:16:43,368 --> 08:16:29,700
us a line on how many lines visible on

4552
08:16:47,388 --> 08:16:45,590
all right we like that answer so for

4553
08:16:50,208 --> 08:16:47,398
both of you you can now switch your

4554
08:16:55,788 --> 08:16:50,218
water to off OSS forward and expect

4555
08:17:00,870 --> 08:16:58,070
hey everyone

4556
08:17:08,330 --> 08:17:00,880
order is off it is

4557
08:17:12,948 --> 08:17:10,850
okay we copy Steve and Sultan you both

4558
08:17:15,288 --> 08:17:12,958
have your water offs and we'll hold here

4559
08:17:17,208 --> 08:17:15,298
for two minutes I want to take a moment

4560
08:17:19,610 --> 08:17:17,218
to congratulate you on the successful

4561
08:17:21,530 --> 08:17:19,620
space Walk we're nearing 25 years of

4562
08:17:23,868 --> 08:17:21,540
space walks on the ISS in support of

4563
08:17:26,090 --> 08:17:23,878

assembly maintenance and upgrades

4564

08:17:28,368 --> 08:17:26,100

Steve congratulations on your eight to

4565

08:17:30,830 --> 08:17:28,378

Eva in your first in 12 years

4566

08:17:32,270 --> 08:17:30,840

Sultan you've now entered an exclusive

4567

08:17:34,548 --> 08:17:32,280

Club of humans who have stepped out into

4568

08:17:36,468 --> 08:17:34,558

the void of space and in doing so you've

4569

08:17:38,750 --> 08:17:36,478

marked a milestone for the United Arab

4570

08:17:40,368 --> 08:17:38,760

Emirates this is a historic moment for

4571

08:17:45,048 --> 08:17:40,378

the expanding space of global

4572

08:17:48,888 --> 08:17:47,810

okay and I don't think Cinco exactly as

4573

08:17:51,170 --> 08:17:48,898

he had helped but we were trying

4574

08:17:53,330 --> 08:17:51,180

something that we've never really

4575

08:17:56,150 --> 08:17:53,340

intended to do and so that that doesn't

4576

08:17:58,670 --> 08:17:56,160

work but it was a tremendous opportunity

4577

08:18:01,628 --> 08:17:58,680

and I want to really want to thank the

4578

08:18:04,250 --> 08:18:01,638

Global Community for getting us

4579

08:18:07,430 --> 08:18:04,260

pasta located where it was I would have

4580

08:18:10,250 --> 08:18:07,440

uh I decided to try and carry that with

4581

08:18:12,468 --> 08:18:10,260

us but everybody the whole team did a

4582

08:18:14,628 --> 08:18:12,478

fantastic job I really appreciate all

4583

08:18:16,910 --> 08:18:14,638

the work that goes put into it and it's

4584

08:18:19,670 --> 08:18:16,920

been a great honor to your participants

4585

08:18:21,650 --> 08:18:19,680

in uh sometimes very first spacewalk and

4586

08:18:23,090 --> 08:18:21,660

I'm sure he has a few words to say as

4587

08:18:26,030 --> 08:18:23,100

well

4588

08:18:29,628 --> 08:18:26,040

thank you Stephen thank you um

4589

08:18:31,010 --> 08:18:29,638

it's a great moment for um for the UAE

4590

08:18:33,650 --> 08:18:31,020

um

4591

08:18:37,430 --> 08:18:33,660

I would like to thank my leadership the

4592

08:18:39,650 --> 08:18:37,440

leadership of the UAE and the USA

4593

08:18:42,888 --> 08:18:39,660

specifically in Brazil

4594

08:18:45,350 --> 08:18:42,898

and NASA for believing in US and for

4595

08:18:48,410 --> 08:18:45,360

giving us this opportunity

4596

08:18:50,690 --> 08:18:48,420

it might be the first in the honorables

4597

08:18:52,730 --> 08:18:50,700

I definitely won't be the last

4598

08:19:01,628 --> 08:18:52,740

We Have astronauts and do training now

4599

08:19:05,750 --> 08:19:03,888

for this moment

4600

08:19:07,490 --> 08:19:05,760

I have

4601
08:19:14,150 --> 08:19:07,500
first of all allow me to say a few hours

4602
08:19:14,160 --> 08:19:43,250
foreign

4603
08:19:47,690 --> 08:19:45,770
thank you so much

4604
08:19:52,208 --> 08:19:47,700
thank you Steve and Sultan for those

4605
08:19:57,530 --> 08:19:55,850
and that takes our two minutes so at

4606
08:19:59,810 --> 08:19:57,540
this time Steve you can verify the outer

4607
08:20:01,610 --> 08:19:59,820
hatch clear is is clear of hardware and

4608
08:20:05,930 --> 08:20:01,620
verify the handle position for the hatch

4609
08:20:12,530 --> 08:20:08,390
all right

4610
08:20:19,850 --> 08:20:14,690
and any of those current Works they'll

4611
08:20:19,860 --> 08:20:35,090
thank you

4612
08:20:40,250 --> 08:20:37,670
with both astronauts now back inside the

4613
08:20:42,410 --> 08:20:40,260

airlock Steve Bowen will close the door

4614

08:20:47,208 --> 08:20:42,420

close the airlock hatch

4615

08:20:51,888 --> 08:20:49,968

we're now at 6 hours and 54 minutes into

4616

08:20:53,930 --> 08:20:51,898

the spacewalk

4617

08:21:20,570 --> 08:20:53,940

again that spacewalk started when the

4618

08:21:20,580 --> 08:21:25,850

Ed

4619

08:21:29,150 --> 08:21:27,060

this View

4620

08:21:31,610 --> 08:21:29,160

[Music]

4621

08:21:33,468 --> 08:21:31,620

okay we copied that the EV hatch is

4622

08:21:36,170 --> 08:21:33,478

closed and locked

4623

08:21:40,850 --> 08:21:36,180

goes on on the UIA you can check that

4624

08:21:44,888 --> 08:21:40,860

oxygen emu one and two valves are open

4625

08:21:44,898 --> 08:21:49,730

interview one and two are open

4626
08:21:59,810 --> 08:21:53,690
you can switch the power ev1 and 2 to 1

4627
08:22:06,230 --> 08:22:01,850
Five Coffee

4628
08:22:14,990 --> 08:22:10,930
and on maybe two and I have uh two amuse

4629
08:22:15,000 --> 08:22:20,208
copy and verify volts are 18 to 19.

4630
08:22:30,770 --> 08:22:26,690
that's affirmative 81 18.6 evq 18.5

4631
08:22:34,368 --> 08:22:30,780
and I have um if you want and zero

4632
08:22:37,250 --> 08:22:34,378
decimal zero two on eb2

4633
08:22:40,310 --> 08:22:37,260
okay we copy so both of you on your dcms

4634
08:22:43,250 --> 08:22:40,320
you can switch power to SCU and expect a

4635
08:22:49,430 --> 08:22:44,448
hey everyone

4636
08:22:49,440 --> 08:22:56,628
better restart

4637
08:23:02,868 --> 08:22:58,788
and that with that I will hand you back

4638
08:23:02,878 --> 08:23:08,888

thank you man thank you everybody

4639

08:23:12,888 --> 08:23:11,628

thank you and Steve still time welcome

4640

08:23:15,830 --> 08:23:12,898

back we're looking forward to getting

4641

08:23:25,070 --> 08:23:15,840

you inside on your DCM I'll have you

4642

08:23:37,548 --> 08:23:27,948

would you do that verify that O2 act

4643

08:23:37,558 --> 08:23:43,670

thank you

4644

08:23:49,788 --> 08:23:47,150

ground ivy and McLean has handed uh

4645

08:24:03,420 --> 08:23:49,798

duties back over to suit IV Woody hoberg

4646

08:24:15,230 --> 08:24:03,500

[Music]

4647

08:24:15,240 --> 08:24:23,448

thank you

4648

08:24:23,458 --> 08:25:08,090

foreign

4649

08:25:08,100 --> 08:25:37,430

oh my goodness

4650

08:25:37,440 --> 08:25:58,850

foreign

4651
08:25:58,860 --> 08:26:10,368

[Music]

4652
08:26:14,770 --> 08:26:12,520

what's up

4653
08:26:17,388 --> 08:26:14,780

[Applause]

4654
08:26:19,850 --> 08:26:17,398
and we've now crossed into the seven

4655
08:26:23,030 --> 08:26:19,860
hour mark of today's space walk that

4656
08:26:37,388 --> 08:26:23,040
beginning at 11 A.M Central Time

4657
08:26:43,910 --> 08:26:39,770
all right we're going to start the crew

4658
08:26:45,530 --> 08:26:43,920
lock refresh now at 2012. let me know if

4659
08:26:47,690 --> 08:26:45,540
you'd like me to increase or decrease

4660
08:26:49,490 --> 08:26:47,700
the rate we'll start slow all right

4661
08:27:02,410 --> 08:26:49,500
thank you

4662
08:27:11,628 --> 08:27:04,788
of the crew lock portion of the quest

4663
08:27:11,638 --> 08:27:47,150

PSI Factory

4664

08:28:21,110 --> 08:27:49,670

how's the race feeling

4665

08:28:21,120 --> 08:28:27,610

foreign

4666

08:28:33,048 --> 08:28:30,350

pressurization of the crew lock

4667

08:28:35,448 --> 08:28:33,058

beginning

4668

08:28:39,230 --> 08:28:35,458

that rounds out today's spacewalk time

4669

08:28:41,930 --> 08:28:39,240

at 7 hours and one minute beginning 8 11

4670

08:28:45,128 --> 08:28:41,940

A.M Central Time and ending at 3 12 pm

4671

08:28:58,968 --> 08:28:47,628

pressure in the

4672

08:29:04,968 --> 08:29:03,010

during today's spacewalk the

4673

08:29:08,030 --> 08:29:04,978

astronauts uh

4674

08:29:10,128 --> 08:29:08,040

we're able to Route some cables as well

4675

08:29:12,650 --> 08:29:10,138

as secure some multi-layer insulation

4676
08:29:15,288 --> 08:29:12,660
that prepares two mod kits for future

4677
08:29:16,788 --> 08:29:15,298
installation of the irosas these are

4678
08:29:18,468 --> 08:29:16,798
International Space Station rollout

4679
08:29:21,708 --> 08:29:18,478
solar arrays that we expect to arrive

4680
08:29:26,990 --> 08:29:24,948
the crew then moved on to the rfg or the

4681
08:29:29,448 --> 08:29:27,000
radio frequency group that's part of the

4682
08:29:32,330 --> 08:29:29,458
s-band antenna the goal today was to

4683
08:29:34,670 --> 08:29:32,340
remove the rfg however they ran into a

4684
08:29:37,430 --> 08:29:34,680
difficult bolt which ended up breaking

4685
08:29:39,288 --> 08:29:37,440
off and were unable to remove that

4686
08:29:42,350 --> 08:29:39,298
portion of equipment

4687
08:29:44,090 --> 08:29:42,360
the team reinstalled the equipment and

4688
08:29:46,850 --> 08:29:44,100

so it is safe outside the International

4689

08:29:48,888 --> 08:29:46,860

Space Station

4690

08:29:51,410 --> 08:29:48,898

the astronauts then moved into cleanup

4691

08:29:53,990 --> 08:29:51,420

period before ingressing the airlock and

4692

08:29:55,968 --> 08:29:54,000

again we are in repress again that

4693

08:29:58,670 --> 08:29:55,978

rounds us out at a seven hour and one

4694

08:30:01,128 --> 08:29:58,680

minute space walk today

4695

08:30:04,190 --> 08:30:01,138

this was the eighth spacewalk for Steve

4696

08:30:06,730 --> 08:30:04,200

Bowen and the very first for sultan

4697

08:30:27,230 --> 08:30:06,740

al-niadi marking the very first

4698

08:30:27,240 --> 08:30:49,730

foreign

4699

08:30:49,740 --> 08:31:05,448

ah

4700

08:31:05,458 --> 08:32:02,388

thank you very much

4701
08:32:02,398 --> 08:32:59,288
foreign

4702
08:33:05,030 --> 08:33:01,850
with the completion of today's space

4703
08:33:06,708 --> 08:33:05,040
walk at 7 hours and one minute we have a

4704
08:33:09,830 --> 08:33:06,718
readout of

4705
08:33:12,048 --> 08:33:09,840
our spacewalk stats so far in total this

4706
08:33:13,730 --> 08:33:12,058
was the 261st spacewalk in support of

4707
08:33:14,990 --> 08:33:13,740
space station assembly maintenance and

4708
08:33:16,368 --> 08:33:15,000
upgrades

4709
08:33:18,110 --> 08:33:16,378
it was the fourth out of the space

4710
08:33:20,510 --> 08:33:18,120
station this year but the second four

4711
08:33:22,430 --> 08:33:20,520
Expedition 69.

4712
08:33:25,250 --> 08:33:22,440
today was the eighth spacewalk for Steve

4713
08:33:28,010 --> 08:33:25,260

Bowen totaling 54 hours and 19 minutes

4714

08:33:31,430 --> 08:33:28,020

and obviously the very first for alniadi

4715

08:33:33,410 --> 08:33:31,440

with seven hours and one minute

4716

08:33:37,548 --> 08:33:33,420

that was today's spacewalk total time

4717

08:33:41,388 --> 08:33:37,558

but in total with those 261 spacewalks

4718

08:34:18,410 --> 08:33:41,398

that is equal to 69 days 3 hours and 24

4719

08:34:25,190 --> 08:34:20,628

guys while we're waiting here you can

4720

08:34:27,948 --> 08:34:25,200

check that your glove heaters are off of

4721

08:34:30,170 --> 08:34:27,958

they are offered if you want

4722

08:34:32,030 --> 08:34:30,180

refill off

4723

08:34:34,010 --> 08:34:32,040

okay and check your gloves for

4724

08:34:35,690 --> 08:34:34,020

contamination let us know if you see

4725

08:34:39,830 --> 08:34:35,700

anything

4726
08:34:43,128 --> 08:34:41,388
grease or just

4727
08:34:48,530 --> 08:34:43,138
I don't know what

4728
08:34:48,540 --> 08:34:58,788
and 82 gloves nominal

4729
08:35:03,770 --> 08:35:01,310
okay okay we copy a couple black smudges

4730
08:35:16,610 --> 08:35:03,780
on Steve's gloves and Domino gloves on

4731
08:35:20,868 --> 08:35:19,128
we got 30 more seconds so don't do it

4732
08:35:49,548 --> 08:35:20,878
yet but the next step will be O2

4733
08:35:53,628 --> 08:35:51,948
all right Steven's check passed with

4734
08:35:56,930 --> 08:35:53,638
flying colors you can take your O2

4735
08:35:56,940 --> 08:35:59,510
all right

4736
08:35:59,520 --> 08:36:12,888
everyone

4737
08:36:12,898 --> 08:36:16,968
ah

4738
08:36:16,978 --> 08:36:23,870

foreign

4739

08:36:23,880 --> 08:36:29,650

[Music]

4740

08:36:42,610 --> 08:36:31,788

again let me know if you'd like to

4741

08:36:46,810 --> 08:36:44,510

repressurization of the crew lock

4742

08:36:49,850 --> 08:36:46,820

continues

4743

08:36:52,910 --> 08:36:49,860

now at 5.1 pounds per square inch

4744

08:36:54,708 --> 08:36:52,920

they'll bring that up to about 14.7 PSI

4745

08:36:56,750 --> 08:36:54,718

which will equal out with the rest of

4746

08:36:58,128 --> 08:36:56,760

the International Space Station also

4747

08:37:03,400 --> 08:36:58,138

similar to what we are used to

4748

08:37:11,230 --> 08:37:09,410

[Applause]

4749

08:37:13,610 --> 08:37:11,240

oh

4750

08:37:16,010 --> 08:37:13,620

just another heart attack near the end

4751
08:37:29,330 --> 08:37:16,020
of this repress you should expect one

4752
08:37:44,580 --> 08:37:30,960
foreign

4753
08:37:44,590 --> 08:38:01,968
[Applause]

4754
08:38:06,170 --> 08:38:03,948
elsewhere aboard the International Space

4755
08:38:08,750 --> 08:38:06,180
Station Sergey procopia of Dimitri

4756
08:38:10,910 --> 08:38:08,760
patelan and Andre fajaya three was

4757
08:38:13,788 --> 08:38:10,920
Cosmos cosmonauts are in the pre-sleep

4758
08:38:15,288 --> 08:38:13,798
portion of their evening

4759
08:38:18,948 --> 08:38:15,298
it's currently

4760
08:38:21,450 --> 08:38:18,958
8 23 PM GMT the time used aboard the

4761
08:38:44,170 --> 08:38:21,460
International Space Station

4762
08:38:46,850 --> 08:38:44,180
[Applause]

4763
08:38:50,770 --> 08:38:46,860

and the pressure in the crew lock is now

4764

08:38:58,388 --> 08:38:56,290

[Applause]

4765

08:39:12,780 --> 08:38:58,398

[Music]

4766

08:39:19,870 --> 08:39:18,708

[Applause]

4767

08:39:26,490 --> 08:39:19,880

foreign

4768

08:40:07,850 --> 08:39:47,740

[Applause]

4769

08:40:07,860 --> 08:40:26,880

foreign

4770

08:40:32,270 --> 08:40:29,410

[Applause]

4771

08:40:34,128 --> 08:40:32,280

erization continues of the crew lock

4772

08:40:36,288 --> 08:40:34,138

portion of the quest airlock where our

4773

08:40:39,410 --> 08:40:36,298

two spacewalkers

4774

08:40:43,310 --> 08:40:39,420

NASA Steve Bowen and uae's sultan

4775

08:40:45,770 --> 08:40:43,320

alnayadi await full repressurization we

4776
08:40:47,990 --> 08:40:45,780
are now at 11 PSI we'll bring that all

4777
08:40:49,850 --> 08:40:48,000
the way up to 14.7 to match the rest of

4778
08:40:53,330 --> 08:40:49,860
the International Space Station before

4779
08:40:55,548 --> 08:40:53,340
opening the hatches between the crew

4780
08:40:57,888 --> 08:40:55,558
lock and the equipment lock

4781
08:41:00,110 --> 08:40:57,898
Woody hoberg will then bring both

4782
08:41:02,570 --> 08:41:00,120
astronauts back into the equipment lock

4783
08:41:05,500 --> 08:41:02,580
portion and assist them in Doffing their

4784
08:41:05,510 --> 08:41:14,810
[Applause]

4785
08:41:25,670 --> 08:41:16,730
[Music]

4786
08:41:31,310 --> 08:41:28,310
later this weekend the crew will enjoy

4787
08:41:33,830 --> 08:41:31,320
some time of rest and relaxation

4788
08:41:36,170 --> 08:41:33,840

Saturday and Sunday ahead of getting

4789

08:41:48,320 --> 08:41:36,180

back into their scheduled work week on

4790

08:41:48,330 --> 08:42:04,430

[Music]

4791

08:42:04,440 --> 08:42:17,628

oh

4792

08:42:21,948 --> 08:42:19,548

here in Mission Control Houston the

4793

08:42:24,230 --> 08:42:21,958

orbit 3 team is starting to arrive to

4794

08:42:29,810 --> 08:42:24,240

take over from orbit 2 they will conduct

4795

08:42:47,690 --> 08:42:32,330

the orbit 3 team will remain on console

4796

08:42:52,010 --> 08:42:49,850

meanwhile aboard the International Space

4797

08:42:55,490 --> 08:42:52,020

Station repressurization continues now

4798

08:43:28,090 --> 08:42:55,500

at 13.7 PSI getting very close to the

4799

08:43:28,100 --> 08:43:38,750

all right

4800

08:43:38,760 --> 08:43:48,070

laughs

4801
08:43:51,430 --> 08:43:50,090
all right guys we're gonna open up the

4802
08:43:54,700 --> 08:43:51,440
patch now

4803
08:44:04,670 --> 08:43:54,710
thank you bye

4804
08:44:04,680 --> 08:44:45,770
hahaha

4805
08:45:05,960 --> 08:44:48,590
laughs

4806
08:45:05,970 --> 08:45:49,010
[Music]

4807
08:45:49,020 --> 08:46:06,048
all right

4808
08:46:06,058 --> 08:46:40,180
foreign

4809
08:46:40,190 --> 08:47:25,270
[Music]

4810
08:47:29,570 --> 08:47:28,128
ER Communications Handover with the

4811
08:47:33,650 --> 08:47:29,580
International Space Station but it

4812
08:47:35,750 --> 08:47:33,660
appears that the crew lock has reached

4813
08:47:37,610 --> 08:47:35,760

the appropriate pressure

4814

08:47:38,810 --> 08:47:37,620

we'll be standing by for hatch opening

4815

08:47:41,330 --> 08:47:38,820

shortly

4816

08:47:43,968 --> 08:47:41,340

again today's spacewalk started at 8 11

4817

08:48:00,460 --> 08:47:43,978

A.M Central Time and ended at 3 12 p.m

4818

08:48:00,470 --> 08:48:05,930

[Music]

4819

08:48:10,610 --> 08:48:08,208

and obviously those hatches have been

4820

08:48:12,288 --> 08:48:10,620

opened the crew has been moved into the

4821

08:48:15,888 --> 08:48:12,298

equipment lock portion of the quest

4822

08:48:19,850 --> 08:48:18,048

Woody hoberg at the bottom left of your

4823

08:48:22,548 --> 08:48:19,860

screen and Frank Rubio on the top right

4824

08:48:25,310 --> 08:48:22,558

are assisting Steve Bowen in removing

4825

08:48:27,948 --> 08:48:25,320

the safer the simplified aid for Eva

4826
08:48:34,190 --> 08:48:31,128
today was Bowen's eighth spacewalk

4827
08:48:42,980 --> 08:48:34,200
and he now has a total of 54 hours and

4828
08:48:42,990 --> 08:48:53,030
[Music]

4829
08:48:57,170 --> 08:48:54,520
oh

4830
08:49:30,770 --> 08:48:57,180
[Music]

4831
08:49:30,780 --> 08:49:36,510
foreign

4832
08:49:36,520 --> 08:49:49,850
[Music]

4833
08:49:55,128 --> 08:49:53,270
assist the crew in Doffing their suits

4834
08:49:58,850 --> 08:49:55,138
another recap of what was accomplished

4835
08:50:01,010 --> 08:49:58,860
today during the spacewalk

4836
08:50:03,110 --> 08:50:01,020
the crew started out by relocating two

4837
08:50:04,910 --> 08:50:03,120
articulating portable foot restraints

4838
08:50:07,250 --> 08:50:04,920

for future use

4839

08:50:10,388 --> 08:50:07,260

they then moved out to the S6 truss

4840

08:50:13,310 --> 08:50:10,398

where they worked on the 1B mod kit

4841

08:50:14,810 --> 08:50:13,320

they routed some cables for the

4842

08:50:17,090 --> 08:50:14,820

International Space Station rollout

4843

08:50:18,708 --> 08:50:17,100

solar arrays or eye roses that'll be

4844

08:50:22,010 --> 08:50:18,718

installed later this summer after

4845

08:50:24,590 --> 08:50:22,020

arriving on SpaceX 28 resupply mission

4846

08:50:26,690 --> 08:50:24,600

to the International Space Station

4847

08:50:30,288 --> 08:50:26,700

they also secured some multi-layer

4848

08:50:33,230 --> 08:50:30,298

insulation around that mod kit

4849

08:50:35,388 --> 08:50:33,240

they then moved over to the 1A mod kit

4850

08:50:40,968 --> 08:50:35,398

and secured multi-layer insulation there

4851
08:50:46,850 --> 08:50:43,610
both crew members then moved to the

4852
08:50:49,490 --> 08:50:46,860
radio frequency group work on the s-band

4853
08:50:51,650 --> 08:50:49,500
antenna the goal was to remove the rfg

4854
08:50:53,330 --> 08:50:51,660
bring it inside the International Space

4855
08:50:56,570 --> 08:50:53,340
Station and then send it back to Earth

4856
08:51:00,948 --> 08:50:56,580
for refurbishment however one bolt was

4857
08:51:07,310 --> 08:51:05,030
and the station and the rfg was unable

4858
08:51:16,430 --> 08:51:07,320
to be removed from its stanchion

4859
08:51:20,208 --> 08:51:18,110
the crew members then cleaned up their

4860
08:52:47,750 --> 08:51:20,218
work sites before ingressing again a

4861
08:52:47,760 --> 08:52:57,170
thank you okay

4862
08:52:57,180 --> 08:58:27,190
thank you

4863
08:58:32,150 --> 08:58:29,808

Woody hoberg and Frank Rubio helping

4864

08:58:35,150 --> 08:58:32,160

remove the gloves from Sultan al-nayadi

4865

08:58:37,128 --> 08:58:35,160

and NASA astronaut Steve Bowen after

4866

08:58:55,070 --> 08:58:37,138

having completed today's seven hour and

4867

08:59:01,308 --> 08:58:58,490

again the eighth spacewalk for Bowen and

4868

08:59:03,830 --> 08:59:01,318

a new history-making day for sultan

4869

08:59:05,808 --> 08:59:03,840

anayati he's the first astronaut from

4870

08:59:34,610 --> 08:59:05,818

the United Arab Emirates to conduct a

4871

08:59:40,850 --> 08:59:37,968

two smiling faces after today's seven

4872

08:59:43,010 --> 08:59:40,860

hour and one minute Space Walk Sultan

4873

08:59:45,170 --> 08:59:43,020

anayadi of United Arab Emirates on the

4874

08:59:46,368 --> 08:59:45,180

left and Steve Bowen of NASA on the

4875

08:59:48,530 --> 08:59:46,378

right

4876

08:59:52,430 --> 08:59:48,540

that will wrap up our coverage for today

4877

08:59:54,170 --> 08:59:52,440

you can check out nasa.gov live for all

4878

08:59:56,090 --> 08:59:54,180

of our upcoming events

4879

08:59:58,010 --> 08:59:56,100

but for now with the completion of our

4880

09:00:02,460 --> 08:59:58,020

spacewalk that'll wrap it up this is