



1  
00:00:04,550 --> 00:00:01,429  
hi

2  
00:00:07,520 --> 00:00:04,560  
i'm charlie hobaugh of the sts-129 crew

3  
00:00:23,189 --> 00:00:07,530  
and you're watching nasa tv

4  
00:00:29,429 --> 00:00:26,310  
and we see our commander charlie hobaugh

5  
00:00:32,389 --> 00:00:29,439  
an astronaut since 1996 and a veteran of

6  
00:00:34,950 --> 00:00:32,399  
two space shuttle flights sts-104 and

7  
00:00:36,870 --> 00:00:34,960  
sts-10118

8  
00:00:38,709 --> 00:00:36,880  
and pilot butch wilmore

9  
00:00:41,190 --> 00:00:38,719  
he's making his

10  
00:00:43,190 --> 00:00:41,200  
first flight he's served here at kennedy

11  
00:00:45,190 --> 00:00:43,200  
space center on the astronaut support

12  
00:00:47,750 --> 00:00:45,200  
team at ksc in launch and landing

13  
00:00:50,869 --> 00:00:47,760

operations and mission specialist mike

14

00:00:53,549 --> 00:00:50,879

forman veteran of sts-123

15

00:00:57,270 --> 00:00:53,559

in march 2008 he has

16

00:01:00,150 --> 00:00:57,280

378 hours in space including over 19

17

00:01:03,029 --> 00:01:00,160

hours of ebay time in three space walks

18

00:01:06,070 --> 00:01:03,039

dr robert satcher selected his astronaut

19

00:01:08,390 --> 00:01:06,080

in 2006. he's now making his first

20

00:01:10,630 --> 00:01:08,400

flight on the space shuttle yes fishers

21

00:01:13,270 --> 00:01:10,640

and specialist randy bresnik making his

22

00:01:16,789 --> 00:01:13,280

first flight and also serving as an eva

23

00:01:20,469 --> 00:01:16,799

crew member on mission sts 129 and

24

00:01:24,789 --> 00:01:20,479

leland melvin having flown on sts 122 in

25

00:01:27,600 --> 00:01:24,799

2008 and he has logged over 306 hours in

26

00:01:37,860 --> 00:01:27,610

space

27

00:01:37,870 --> 00:01:53,270

[Applause]

28

00:01:56,310 --> 00:01:55,190

tdr launch director

29

00:01:58,230 --> 00:01:56,320

go ahead

30

00:02:00,389 --> 00:01:58,240

okay charlie all the vehicle systems are

31

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

outstanding today the weather's near

32

00:02:04,870 --> 00:02:02,159

perfect for a good lift off and flight

33

00:02:06,950 --> 00:02:04,880

today and our rss is retracted

34

00:02:08,710 --> 00:02:06,960

so on behalf of the kc processing and

35

00:02:10,229 --> 00:02:08,720

launch teams i wish you good luck

36

00:02:12,470 --> 00:02:10,239

godspeed we'll see you back here just

37

00:02:14,550 --> 00:02:12,480

after thanksgiving

38

00:02:17,910 --> 00:02:14,560

thanks mike we really appreciate all the

39

00:02:18,949 --> 00:02:17,920

effort that's gone into making this uh

40

00:02:21,830 --> 00:02:18,959

launch

41

00:02:23,670 --> 00:02:21,840

attempt possible we know uh there's been

42

00:02:26,790 --> 00:02:23,680

a lot of people working some really long

43

00:02:29,110 --> 00:02:26,800

hours on weekends and long days

44

00:02:30,550 --> 00:02:29,120

with all the vehicles that are out there

45

00:02:32,470 --> 00:02:30,560

we're excited to

46

00:02:33,990 --> 00:02:32,480

take this incredible vehicle for a ride

47

00:02:36,390 --> 00:02:34,000

and meet up with another incredible

48

00:02:38,390 --> 00:02:36,400

vehicle the international space station

49

00:02:40,390 --> 00:02:38,400

so with that thank you very much for all

50

00:02:42,390 --> 00:02:40,400

you've done and everybody across the

51  
00:02:43,750 --> 00:02:42,400  
country that's participated we're ready

52  
00:02:45,110 --> 00:02:43,760  
to go

53  
00:02:46,070 --> 00:02:45,120  
thank you very much scorch appreciate

54  
00:02:50,550 --> 00:02:46,080  
that

55  
00:02:53,670 --> 00:02:50,560  
launch atlantis copy clear lunch t-minus

56  
00:02:54,630 --> 00:02:53,680  
10 9 8 7

57  
00:02:56,630 --> 00:02:54,640  
6

58  
00:02:57,830 --> 00:02:56,640  
5

59  
00:02:58,869 --> 00:02:57,840  
3

60  
00:02:59,990 --> 00:02:58,879  
2

61  
00:03:04,390 --> 00:03:00,000  
1

62  
00:03:07,350 --> 00:03:04,400  
0 and liftoff of space shuttle atlanta's

63  
00:03:09,350 --> 00:03:07,360

mission to build resupply and to do

64

00:03:11,430 --> 00:03:09,360

research on the international space

65

00:03:13,430 --> 00:03:11,440

station

66

00:03:15,190 --> 00:03:13,440

houston now controlling atlantis begins

67

00:03:18,710 --> 00:03:15,200

its penultimate journey to shore off the

68

00:03:20,309 --> 00:03:18,720

international space station

69

00:03:21,670 --> 00:03:20,319

atlanta is now on the proper alignment

70

00:03:23,430 --> 00:03:21,680

for its eight and a half minute ride to

71

00:03:25,110 --> 00:03:23,440

orbit four and a half million pounds of

72

00:03:30,710 --> 00:03:25,120

hardware and humans taking aim on the

73

00:03:34,789 --> 00:03:32,710

thirty seconds into the flight

74

00:03:36,309 --> 00:03:34,799

atlanta's almost two miles in altitude

75

00:03:37,990 --> 00:03:36,319

almost six miles downrange from the

76  
00:03:42,470 --> 00:03:38,000  
kennedy space center already traveling

77  
00:03:46,070 --> 00:03:44,070  
the three liquid fuel main engines now

78  
00:03:47,430 --> 00:03:46,080  
throttling back to 72 percent of rated

79  
00:03:48,949 --> 00:03:47,440  
performance going into the bucket

80  
00:03:55,030 --> 00:03:48,959  
reducing the stress on the shuttle as it

81  
00:04:00,070 --> 00:03:57,670  
55 seconds into the flight all systems

82  
00:04:01,990 --> 00:04:00,080  
operating normally 900 miles an hour the

83  
00:04:04,550 --> 00:04:02,000  
speed of atlantis right now six miles in

84  
00:04:10,229 --> 00:04:04,560  
altitude nine miles downrange

85  
00:04:13,429 --> 00:04:11,670  
the throttle up call acknowledged by

86  
00:04:15,110 --> 00:04:13,439  
commander charlie hobaugh joined on the

87  
00:04:16,550 --> 00:04:15,120  
flight deck by pilot butch wilmore

88  
00:04:18,469 --> 00:04:16,560

flight engineer randy breznick and

89

00:04:20,550 --> 00:04:18,479

leland melvin seated down on the mid

90

00:04:22,069 --> 00:04:20,560

decker mike foreman and bobby satcher

91

00:04:26,790 --> 00:04:22,079

kicking off their work week with a

92

00:04:31,430 --> 00:04:28,710

one minute 30 seconds into the flight

93

00:04:33,510 --> 00:04:31,440

atlanta's 13 miles in altitude 15 miles

94

00:04:39,749 --> 00:04:33,520

downrange traveling almost 2 000 miles

95

00:04:50,390 --> 00:04:41,430

three good auxiliary power units three

96

00:04:55,030 --> 00:04:53,270

one minute 50 seconds into the flight

97

00:05:10,230 --> 00:04:55,040

10 seconds away from solid rocket

98

00:05:14,150 --> 00:05:12,230

booster officer confirms staging a good

99

00:05:16,150 --> 00:05:14,160

solid rocket booster separation guidance

100

00:05:18,390 --> 00:05:16,160

now converging atlanta steering into the

101  
00:05:23,590 --> 00:05:18,400  
center lane of highway 129 on route to

102  
00:05:29,670 --> 00:05:25,830  
there's leland randy

103  
00:05:36,310 --> 00:05:30,950  
here's a

104  
00:05:42,629 --> 00:05:37,670  
randy making out like a good second

105  
00:05:46,469 --> 00:05:44,150  
finally got unstrapped got a couple of

106  
00:05:49,270 --> 00:05:46,479  
shots to the ground

107  
00:05:52,150 --> 00:05:49,280  
the beauty of creation

108  
00:06:02,070 --> 00:05:52,160  
i just fired a payload bay door opening

109  
00:06:02,080 --> 00:06:15,110  
and now for the port door

110  
00:06:22,629 --> 00:06:19,110  
there's bobby get him a drink of water

111  
00:06:24,150 --> 00:06:22,639  
i'm looking out at the apds elc-1 elc2

112  
00:06:26,469 --> 00:06:24,160  
back there in the background

113  
00:06:29,029 --> 00:06:26,479

arms already pre-cradle

114

00:06:31,270 --> 00:06:29,039

set up to get uh get to work on flight

115

00:06:33,510 --> 00:06:31,280

day two

116

00:06:35,430 --> 00:06:33,520

and suggest the beginning of sunrise

117

00:06:39,749 --> 00:06:35,440

that little flash there

118

00:06:44,230 --> 00:06:41,749

body i'm like this is today now doing a

119

00:06:46,309 --> 00:06:44,240

little emu check out back in the airline

120

00:06:48,629 --> 00:06:46,319

we're just doing today give you check

121

00:06:49,589 --> 00:06:48,639

out here on flight day two having a fun

122

00:06:51,430 --> 00:06:49,599

time

123

00:06:53,990 --> 00:06:51,440

yeah apparently we have to do it before

124

00:06:58,629 --> 00:06:56,550

don't be talking now uh

125

00:07:00,710 --> 00:06:58,639

have a good one all right thanks

126

00:07:02,230 --> 00:07:00,720

sportswear we want to tell you a little

127

00:07:03,909 --> 00:07:02,240

bit

128

00:07:05,350 --> 00:07:03,919

stay away from the red dot food man you

129

00:07:08,469 --> 00:07:05,360

shouldn't be stealing anything all the

130

00:07:11,589 --> 00:07:08,479

food is my food it has blue dots on it

131

00:07:14,150 --> 00:07:11,599

it's got blue velcro so blue is my color

132

00:07:15,350 --> 00:07:14,160

not true

133

00:07:16,950 --> 00:07:15,360

see here

134

00:07:18,550 --> 00:07:16,960

that's my color

135

00:07:19,749 --> 00:07:18,560

blue no

136

00:07:22,230 --> 00:07:19,759

all right here we come again a little

137

00:07:23,670 --> 00:07:22,240

flight dick uh

138

00:07:26,790 --> 00:07:23,680

relics as we are

139

00:07:28,309 --> 00:07:26,800

working the inspection

140

00:07:29,990 --> 00:07:28,319

shuttle arm coming out in front of the

141

00:07:38,710 --> 00:07:30,000

vehicle

142

00:07:48,710 --> 00:07:40,629

and view over the pacific

143

00:07:56,230 --> 00:07:50,550

mike on the bike

144

00:08:00,869 --> 00:07:58,869

robotic arm operators uh butch wilmore

145

00:08:03,189 --> 00:08:00,879

and leland melvin

146

00:08:05,589 --> 00:08:03,199

storing away the ord boom sensor system

147

00:08:07,270 --> 00:08:05,599

and and its three-dimensional laser

148

00:08:09,510 --> 00:08:07,280

imaging devices

149

00:08:12,950 --> 00:08:09,520

after successful completion of today's

150

00:08:14,710 --> 00:08:12,960

inspection activities

151  
00:08:17,670 --> 00:08:14,720  
get ready for the day big day of course

152  
00:08:20,070 --> 00:08:17,680  
a lot of rendezvous burns rendezvous

153  
00:08:24,550 --> 00:08:20,080  
dlc unboxing install you prep a lot of

154  
00:08:28,950 --> 00:08:27,270  
and here's an arms burn

155  
00:08:31,430 --> 00:08:28,960  
you see the tail going a little orange

156  
00:08:35,190 --> 00:08:33,269  
before we rendezvous of course we want

157  
00:08:37,350 --> 00:08:35,200  
to get the imus out of the airlock so

158  
00:08:41,829 --> 00:08:37,360  
this is transferring the emu's

159  
00:08:41,839 --> 00:08:48,630  
the station's starting to get closer

160  
00:08:51,750 --> 00:08:50,630  
to scorch is transferred to the off

161  
00:09:02,340 --> 00:08:51,760  
cockpit

162  
00:09:02,350 --> 00:09:06,949  
[Music]

163  
00:09:11,990 --> 00:09:09,110

and uh i had to tally home a while ago

164

00:09:14,360 --> 00:09:12,000

you guys are looking good

165

00:09:15,750 --> 00:09:14,370

awesome you guys took a pretty bright uh

166

00:09:18,550 --> 00:09:15,760

[Music]

167

00:09:20,150 --> 00:09:18,560

uh object in the sky today

168

00:09:23,350 --> 00:09:20,160

picked you up this morning just a little

169

00:09:25,350 --> 00:09:23,360

dot pretty big now

170

00:09:27,110 --> 00:09:25,360

and growing ever more by the minute i

171

00:09:28,150 --> 00:09:27,120

bet we're looking forward to seeing you

172

00:09:48,470 --> 00:09:28,160

guys

173

00:09:54,150 --> 00:09:52,790

already oh yeah it's in the locker

174

00:09:56,790 --> 00:09:54,160

thanks

175

00:10:07,880 --> 00:09:56,800

for the robotics

176

00:10:07,890 --> 00:10:16,389

[Music]

177

00:10:22,550 --> 00:10:19,670

okay yeah you're just hey butch and i

178

00:10:27,750 --> 00:10:24,870

i see he's still drifting back see no

179

00:10:29,110 --> 00:10:27,760

two right now i had another one correct

180

00:10:31,670 --> 00:10:29,120

trying to

181

00:10:33,190 --> 00:10:31,680

sneak back there this is good lucky fun

182

00:10:35,269 --> 00:10:33,200

and funky and i want a negative

183

00:10:36,389 --> 00:10:35,279

extradited initiation so we got it right

184

00:10:38,150 --> 00:10:36,399

now

185

00:10:44,470 --> 00:10:38,160

i'm happy with that

186

00:10:50,310 --> 00:10:46,310

talk to your another end

187

00:10:55,030 --> 00:10:50,320

uh yep cool daddy

188

00:10:58,470 --> 00:10:57,269

probably another

189

00:11:01,560 --> 00:10:58,480

thank you sir

190

00:11:01,570 --> 00:11:05,590

[Music]

191

00:11:05,600 --> 00:11:19,269

oh physics

192

00:11:21,829 --> 00:11:20,630

all right so we're going to do the 600

193

00:11:24,389 --> 00:11:21,839

foot of net

194

00:11:27,190 --> 00:11:24,399

point 22.3 as you already said

195

00:11:29,509 --> 00:11:27,200

we got a negative  $x \cdot i$  believe we are

196

00:11:31,990 --> 00:11:29,519

close enough to know

197

00:11:37,509 --> 00:11:35,030

all right uh station we're gonna start

198

00:11:40,630 --> 00:11:37,519

the rpm ready mark

199

00:11:42,630 --> 00:11:40,640

copy rpm start mark

200

00:11:44,790 --> 00:11:42,640

so at 9 52 a.m central time the

201  
00:11:46,550 --> 00:11:44,800  
rendezvous pitch maneuver begins for

202  
00:11:48,630 --> 00:11:46,560  
shuttle atlantis this backflip maneuver

203  
00:11:50,230 --> 00:11:48,640  
will last about nine minutes during this

204  
00:11:52,069 --> 00:11:50,240  
time nicole stott

205  
00:11:53,990 --> 00:11:52,079  
and jeff williams the two flight

206  
00:11:56,069 --> 00:11:54,000  
engineers for expedition 21 will be

207  
00:12:08,389 --> 00:11:56,079  
inside the zvezda service module taking

208  
00:12:08,399 --> 00:12:18,069  
15 more degrees

209  
00:12:35,430 --> 00:12:19,829  
that could not be more perfect look at

210  
00:12:39,110 --> 00:12:36,629  
all right butch

211  
00:12:52,310 --> 00:12:39,120  
60 we're gonna go ku to on and we'll get

212  
00:12:58,389 --> 00:12:56,550  
atlantis station on the big loop uh rpm

213  
00:13:01,110 --> 00:12:58,399

is finished with you number one for

214

00:13:03,829 --> 00:13:01,120

arrival i'm talking port pma2

215

00:13:09,030 --> 00:13:03,839

i was hoping there was nobody in railway

216

00:13:13,590 --> 00:13:11,590

we are getting there get ready mark out

217

00:13:15,269 --> 00:13:13,600

the window yep out the window

218

00:13:17,269 --> 00:13:15,279

is what i saw on both ready with the

219

00:13:18,920 --> 00:13:17,279

timer ready

220

00:13:21,670 --> 00:13:18,930

got that

221

00:13:28,310 --> 00:13:21,680

[Music]

222

00:13:38,230 --> 00:13:30,949

nine inches

223

00:13:42,949 --> 00:13:40,550

no free drift yet

224

00:13:51,030 --> 00:13:42,959

still steady light

225

00:13:55,590 --> 00:13:53,990

good job good job good job guys

226

00:13:57,189 --> 00:13:55,600

nice job nice

227

00:14:05,210 --> 00:13:57,199

nicey done let's do flight controller

228

00:14:05,220 --> 00:14:14,870

[Music]

229

00:14:14,880 --> 00:14:21,810

nicole

230

00:14:27,509 --> 00:14:25,750

[Music]

231

00:14:30,710 --> 00:14:27,519

and so hatch is opening between the two

232

00:14:31,829 --> 00:14:30,720

spacecraft at 12 28 p.m central time

233

00:14:33,670 --> 00:14:31,839

today

234

00:14:37,110 --> 00:14:33,680

the space shuttle crew of atlantis

235

00:14:39,829 --> 00:14:37,120

joining the crew of expedition 21 aboard

236

00:14:41,189 --> 00:14:39,839

the international space station

237

00:14:43,189 --> 00:14:41,199

there's charlie hilbaugh the commander

238

00:14:45,509 --> 00:14:43,199

of atlantis joining

239

00:14:48,069 --> 00:14:45,519

with the crew first meeting frank de

240

00:14:50,870 --> 00:14:48,079

winner bob thirsk jeff williams

241

00:14:51,829 --> 00:14:50,880

roman romanenko max suryav and nicole

242

00:14:53,509 --> 00:14:51,839

stott

243

00:15:01,430 --> 00:14:53,519

the expedition 21 crew board the

244

00:15:04,629 --> 00:15:02,870

this is mission control houston you're

245

00:15:06,870 --> 00:15:04,639

looking live inside the quest airlock on

246

00:15:08,710 --> 00:15:06,880

board the international space station as

247

00:15:10,470 --> 00:15:08,720

preparations are underway to kick off

248

00:15:13,030 --> 00:15:10,480

today's spacewalk a little after 8 am

249

00:15:15,150 --> 00:15:13,040

central time for both suits your goal to

250

00:15:17,990 --> 00:15:15,160

continue with step 14.

251  
00:15:19,829 --> 00:15:18,000  
sts-129 mission specialist nicole stott

252  
00:15:22,550 --> 00:15:19,839  
is in there helping out mike fortman and

253  
00:15:24,710 --> 00:15:22,560  
bobby satcher as they get ready to go

254  
00:15:26,949 --> 00:15:24,720  
robbie's attaches on the left

255  
00:15:28,790 --> 00:15:26,959  
going down for his first dva

256  
00:15:31,189 --> 00:15:28,800  
mike foreman on the right

257  
00:15:32,550 --> 00:15:31,199  
for his fourth eva

258  
00:15:34,470 --> 00:15:32,560  
that's leland melvin there at the

259  
00:15:36,230 --> 00:15:34,480  
robotics workstation inside the destiny

260  
00:15:38,069 --> 00:15:36,240  
laboratory

261  
00:15:40,230 --> 00:15:38,079  
he's uh going to be doing some of that

262  
00:15:41,670 --> 00:15:40,240  
work today as bobby satcher and mike

263  
00:15:43,189 --> 00:15:41,680

foreman get ready to go here in just a

264

00:15:45,189 --> 00:15:43,199

few minutes

265

00:15:47,110 --> 00:15:45,199

the first task up for satchel will be

266

00:15:48,470 --> 00:15:47,120

setting up the station's robotic arm on

267

00:15:50,710 --> 00:15:48,480

the outside getting a foot restraint

268

00:15:58,470 --> 00:15:50,720

ready to go so melvin will be watching

269

00:16:06,069 --> 00:15:59,829

and there you see the outer hatch on the

270

00:16:11,350 --> 00:16:09,269

oh please

271

00:16:15,430 --> 00:16:11,360

gentlemen are coming out just over the

272

00:16:18,790 --> 00:16:15,440

west coast of central south america

273

00:16:23,110 --> 00:16:20,470

here's a picture of mike foreman coming

274

00:16:24,629 --> 00:16:23,120

up to the starboard tsa

275

00:16:26,710 --> 00:16:24,639

early on in the eva he's getting ready

276

00:16:29,990 --> 00:16:26,720

to do the bolts it'll release the sassa

277

00:16:33,990 --> 00:16:30,000

antenna and allow uh

278

00:16:35,829 --> 00:16:34,000

allow them to install on g1 later on

279

00:16:37,990 --> 00:16:35,839

and uh bobby and michael working hard

280

00:16:39,590 --> 00:16:38,000

outside i was uh slacking off inside

281

00:16:42,150 --> 00:16:39,600

just you know playing with cameras and

282

00:16:43,430 --> 00:16:42,160

keeping track of things

283

00:16:46,069 --> 00:16:43,440

it's been trying to send you guys some

284

00:16:53,509 --> 00:16:48,150

there's mike with his uh

285

00:16:57,189 --> 00:16:55,430

now here's what the portuguese i'm sorry

286

00:16:58,310 --> 00:16:57,199

the starboard tsa looks like uh in the

287

00:17:00,550 --> 00:16:58,320

night time

288

00:17:02,389 --> 00:17:00,560

helmet lights and the shuttle lights

289

00:17:04,549 --> 00:17:02,399

still uh works out pretty well now we

290

00:17:06,470 --> 00:17:04,559

got bobby dr bobby satcher on the arms

291

00:17:09,829 --> 00:17:06,480

heading out to do some uh

292

00:17:16,390 --> 00:17:09,839

lubing on the tsa out there against the

293

00:17:21,029 --> 00:17:17,990

areas taking a picture of us as we're

294

00:17:24,949 --> 00:17:22,870

all right here we have the highest

295

00:17:29,430 --> 00:17:24,959

recorded orthopedic

296

00:17:34,789 --> 00:17:31,830

and here's our two eminent robotic studs

297

00:17:37,510 --> 00:17:34,799

working the robotic arm

298

00:17:40,390 --> 00:17:37,520

aboard station flying bobby and moving

299

00:17:42,630 --> 00:17:40,400

him around to his different work sites

300

00:17:44,549 --> 00:17:42,640

on sex out you can see the myriad of

301  
00:17:46,549 --> 00:17:44,559  
displays and controls they have from

302  
00:17:52,710 --> 00:17:46,559  
space station armed to

303  
00:17:58,390 --> 00:17:54,470  
oh i think i'm going to turn the boat

304  
00:18:05,750 --> 00:18:00,230  
well now you can see the cup cone is

305  
00:18:11,270 --> 00:18:07,110  
of course

306  
00:18:11,280 --> 00:18:19,830  
can you reach it

307  
00:18:23,990 --> 00:18:22,390  
and would you guys want to have us

308  
00:18:25,350 --> 00:18:24,000  
tap with the hammer at all if it'll cut

309  
00:18:29,590 --> 00:18:25,360  
loose in the next seven minutes or just

310  
00:18:46,789 --> 00:18:31,029  
i think you start tapping now it'd be

311  
00:18:50,549 --> 00:18:49,190  
get close

312  
00:18:56,150 --> 00:18:50,559  
bucket needs

313  
00:18:56,160 --> 00:19:06,470

excellent work guys keep it up

314

00:19:06,480 --> 00:19:12,390

oh freedom

315

00:19:17,110 --> 00:19:14,870

great job guys thanks took mike foreman

316

00:19:19,029 --> 00:19:17,120

hammering on the bolt with uh with the

317

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

plastic end of a hammer and bobby

318

00:19:22,870 --> 00:19:20,960

satcher wiggling the brace to get it out

319

00:19:24,549 --> 00:19:22,880

but now that it's free they can continue

320

00:19:29,270 --> 00:19:24,559

on with the deployment of the payload

321

00:19:33,350 --> 00:19:30,310

all right gents

322

00:19:35,190 --> 00:19:33,360

until we re-press just to have a nice uh

323

00:19:36,789 --> 00:19:35,200

drive back to the airlock you did

324

00:19:39,190 --> 00:19:36,799

awesome work today you guys get the

325

00:19:43,669 --> 00:19:39,200

official macgyver award for uh all your

326

00:19:47,350 --> 00:19:45,590

here's our station crew members they've

327

00:19:48,950 --> 00:19:47,360

just installed the new panels in node

328

00:19:50,870 --> 00:19:48,960

one with all the mission stickers who

329

00:19:56,870 --> 00:19:50,880

participated in the assembly of the

330

00:20:02,470 --> 00:19:58,630

here's a little fly through what station

331

00:20:05,510 --> 00:20:03,830

it's a little smaller heading into the

332

00:20:11,510 --> 00:20:05,520

pma back to the shuttle and then you

333

00:20:16,950 --> 00:20:13,029

leaving melvin on the big deck doing

334

00:20:16,960 --> 00:20:20,710

yes he's eating

335

00:20:24,630 --> 00:20:22,310

and here's uh leland do one of our

336

00:20:27,510 --> 00:20:24,640

science experiments

337

00:20:31,270 --> 00:20:27,520

cgpa he says

338

00:20:36,710 --> 00:20:34,070

okay the day was started out with elc 2

339

00:20:38,390 --> 00:20:36,720

grapple getting ready for tomorrow's eoc

340

00:20:40,470 --> 00:20:38,400

2 and fall

341

00:20:42,549 --> 00:20:40,480

comrade and i were moving the arm in an

342

00:20:44,470 --> 00:20:42,559

outcast pretty simple maneuver got it

343

00:20:46,470 --> 00:20:44,480

there pretty quickly and

344

00:20:48,950 --> 00:20:46,480

got the day started off right

345

00:20:51,190 --> 00:20:48,960

today was pretty much a transfer day and

346

00:20:55,029 --> 00:20:51,200

uh kind of relaxed from yesterday's

347

00:20:57,270 --> 00:20:55,039

great ev8 one getting ready for eva2 we

348

00:20:59,669 --> 00:20:57,280

also had some payload activity here's uh

349

00:21:02,390 --> 00:20:59,679

scorch and i installing filters into the

350

00:21:04,230 --> 00:21:02,400

abr system that's one of the big deck uh

351  
00:21:06,070 --> 00:21:04,240  
payloads that we took up and we're gonna

352  
00:21:09,029 --> 00:21:06,080  
transfer that over to the station today

353  
00:21:11,350 --> 00:21:09,039  
to do some uh plant growth

354  
00:21:14,789 --> 00:21:11,360  
and here's uh bob first and i removing

355  
00:21:17,029 --> 00:21:14,799  
the launch bolts from the abrs and about

356  
00:21:20,470 --> 00:21:17,039  
to transfer it over here's bobby in the

357  
00:21:21,909 --> 00:21:20,480  
gym working on the gym robotic arm he's

358  
00:21:24,149 --> 00:21:21,919  
sitting here working at the robotics

359  
00:21:26,230 --> 00:21:24,159  
workstation looking at the ssc

360  
00:21:28,070 --> 00:21:26,240  
we have some great views out of the uh

361  
00:21:30,230 --> 00:21:28,080  
the gym windows the two windows there

362  
00:21:34,470 --> 00:21:30,240  
the forward and the af window just

363  
00:21:39,830 --> 00:21:37,510

bobby is a robotics expert here he's

364

00:21:55,270 --> 00:21:39,840

working the pcs and getting ready to

365

00:21:59,190 --> 00:21:56,789

so he's working on getting it back to

366

00:22:06,390 --> 00:21:59,200

the stowed position after doing the uh

367

00:22:15,029 --> 00:22:08,950

and there's the gym arm on the uh

368

00:22:17,990 --> 00:22:16,950

bobby's becoming the lead master after

369

00:22:40,310 --> 00:22:18,000

all this

370

00:22:43,750 --> 00:22:42,230

again it was a pretty relaxing day

371

00:22:46,070 --> 00:22:43,760

getting our batteries recharged for

372

00:22:49,909 --> 00:22:46,080

another central day tomorrow here's

373

00:22:51,590 --> 00:22:49,919

nicole acting as bobby's uh i guess j2

374

00:23:01,110 --> 00:22:51,600

while he's working the arm getting it

375

00:23:06,470 --> 00:23:03,110

here we're transferring

376

00:23:10,789 --> 00:23:06,480

emu's out of storage in columbus back to

377

00:23:12,070 --> 00:23:10,799

the airlock so here is uh randy's emu

378

00:23:13,830 --> 00:23:12,080

and make sure we don't bump into

379

00:23:15,909 --> 00:23:13,840

anything anyone and rip off any

380

00:23:18,549 --> 00:23:15,919

computers for the robotics workstation

381

00:23:20,230 --> 00:23:18,559

or take anyone out

382

00:23:22,070 --> 00:23:20,240

making the turn into the airlock and

383

00:23:27,909 --> 00:23:22,080

they're going to get it attached and

384

00:23:27,919 --> 00:23:36,230

now they're securing it in the epa

385

00:23:40,390 --> 00:23:38,390

this is the hrf scorch replaced some of

386

00:23:41,590 --> 00:23:40,400

the boards and uh they're now checking

387

00:24:02,950 --> 00:23:41,600

it out to make sure that everything is

388

00:24:09,350 --> 00:24:05,830

eva2 there's comrades they're putting

389

00:24:14,230 --> 00:24:11,510

here's our illustrious commander getting

390

00:24:15,750 --> 00:24:14,240

ready to do some menial transfer in

391

00:24:16,549 --> 00:24:15,760

charge of transfers

392

00:24:19,350 --> 00:24:16,559

in

393

00:24:22,149 --> 00:24:19,360

charge of scorch right now

394

00:24:25,350 --> 00:24:22,159

kind of a securities path to get down to

395

00:24:27,669 --> 00:24:25,360

the uh shuttle going to pma1 and from

396

00:24:29,110 --> 00:24:27,679

node two it's gonna make another 90

397

00:24:31,510 --> 00:24:29,120

degree turn

398

00:24:33,510 --> 00:24:31,520

then we head into the shuttle

399

00:24:36,549 --> 00:24:33,520

this was a bao event with

400

00:24:37,909 --> 00:24:36,559

espn and a couple of other stations and

401  
00:24:40,070 --> 00:24:37,919  
just trying to get

402  
00:24:44,870 --> 00:24:40,080  
someone to throw a football in

403  
00:24:47,350 --> 00:24:44,880  
mounting it to one of the camera man

404  
00:24:50,390 --> 00:24:47,360  
this is a comrade doing a little

405  
00:24:53,269 --> 00:24:50,400  
transfer the rfta he's taken up into the

406  
00:24:58,870 --> 00:24:53,279  
top of the jlp he's gonna do a superman

407  
00:25:03,110 --> 00:25:00,789  
football in space

408  
00:25:04,149 --> 00:25:03,120  
you're the duck

409  
00:25:07,110 --> 00:25:04,159  
one

410  
00:25:14,310 --> 00:25:09,350  
good evening

411  
00:25:17,750 --> 00:25:15,909  
this is mission control houston as you

412  
00:25:19,590 --> 00:25:17,760  
can see the express logistics carrier

413  
00:25:21,510 --> 00:25:19,600

number two being lifted out of atlantis

414

00:25:22,789 --> 00:25:21,520

payload bay using uh the shuttle's

415

00:25:24,310 --> 00:25:22,799

robotic arm

416

00:25:27,110 --> 00:25:24,320

you're getting a good look at the entire

417

00:25:29,669 --> 00:25:27,120

size of this cargo carrier it's 16 feet

418

00:25:31,669 --> 00:25:29,679

by 14 feet wide

419

00:25:33,909 --> 00:25:31,679

the station's arm is going to latch onto

420

00:25:35,830 --> 00:25:33,919

this elc-2 and then move it out to the

421

00:25:37,350 --> 00:25:35,840

station's truss structure to attach it

422

00:25:38,230 --> 00:25:37,360

to one of the cargo attachment points

423

00:25:40,710 --> 00:25:38,240

out there

424

00:25:42,789 --> 00:25:40,720

the destination for elc-2 is going to be

425

00:25:44,149 --> 00:25:42,799

the upper outboard payload attach system

426

00:25:48,630 --> 00:25:44,159

which is on the starboard truss the

427

00:25:53,430 --> 00:25:51,669

is our onboard stationary bike we use it

428

00:25:54,789 --> 00:25:53,440

for a number of reasons one obviously is

429

00:25:57,669 --> 00:25:54,799

to stay

430

00:25:59,430 --> 00:25:57,679

healthy it's good aerobic conditioning

431

00:26:01,590 --> 00:25:59,440

our strength and condition coaches give

432

00:26:03,029 --> 00:26:01,600

us an exercise protocol and we work out

433

00:26:05,190 --> 00:26:03,039

on it

434

00:26:07,909 --> 00:26:05,200

almost every day if not the stationary

435

00:26:10,149 --> 00:26:07,919

bike that will work out on the treadmill

436

00:26:13,190 --> 00:26:10,159

we also use it for eva pre-brief it's

437

00:26:14,950 --> 00:26:13,200

important prior to an eva for a

438

00:26:16,630 --> 00:26:14,960

spacewalking crew member to get us rid

439

00:26:18,789 --> 00:26:16,640

as much nitrogen out of their blood

440

00:26:20,390 --> 00:26:18,799

system as possible and we can either do

441

00:26:21,990 --> 00:26:20,400

that with an overnight camp in the

442

00:26:23,430 --> 00:26:22,000

airlock where they're breathing at

443

00:26:25,750 --> 00:26:23,440

reduced pressure and

444

00:26:28,789 --> 00:26:25,760

strong higher concentrations of oxygen

445

00:26:30,630 --> 00:26:28,799

or if time is limited like today

446

00:26:33,830 --> 00:26:30,640

we can have the crew member

447

00:26:35,909 --> 00:26:33,840

exercise on the sevis bike while

448

00:26:38,230 --> 00:26:35,919

breathing oxygen the combination of

449

00:26:39,909 --> 00:26:38,240

exercise and also breathing oxygen helps

450

00:26:40,950 --> 00:26:39,919

to get rid of some of that nitrogen out

451  
00:26:43,190 --> 00:26:40,960  
of the um

452  
00:26:45,830 --> 00:26:43,200  
out of the blood and here is nicole who

453  
00:26:47,190 --> 00:26:45,840  
will be helping with the exercise

454  
00:26:49,510 --> 00:26:47,200  
protocol

455  
00:26:50,630 --> 00:26:49,520  
good morning we are here just outside of

456  
00:26:52,390 --> 00:26:50,640  
the airlock

457  
00:26:55,110 --> 00:26:52,400  
where we're going to be getting

458  
00:26:56,230 --> 00:26:55,120  
mike and randy ready to go out for eba2

459  
00:26:58,870 --> 00:26:56,240  
and today we're going to do a little

460  
00:27:00,950 --> 00:26:58,880  
something different with the exercise uh

461  
00:27:02,710 --> 00:27:00,960  
protocol so they get the joy of riding

462  
00:27:04,549 --> 00:27:02,720  
on the bike for a little while

463  
00:27:07,029 --> 00:27:04,559

about seven minutes pumping real hard to

464

00:27:09,510 --> 00:27:07,039

get that oxygen flowing and we have a

465

00:27:11,110 --> 00:27:09,520

really nice cue card here that we use to

466

00:27:12,070 --> 00:27:11,120

keep track of

467

00:27:16,870 --> 00:27:12,080

their

468

00:27:20,310 --> 00:27:16,880

and um make sure that they work

469

00:27:23,590 --> 00:27:20,320

yeah i know i noticed mike has very nice

470

00:27:26,310 --> 00:27:25,190

he's a machine

471

00:27:27,750 --> 00:27:26,320

and

472

00:27:28,710 --> 00:27:27,760

so anyway that'll get them all ready to

473

00:27:32,549 --> 00:27:28,720

go out

474

00:27:35,909 --> 00:27:34,070

we're getting ready to move the arm and

475

00:27:39,110 --> 00:27:35,919

uh scorch was helping me out a little

476  
00:27:41,990 --> 00:27:39,120  
bit since uh getting ready for the

477  
00:27:52,630 --> 00:27:42,000  
viewing position moving the elv2 out of

478  
00:27:56,310 --> 00:27:54,310  
jeff came to visit let's check on us see

479  
00:28:04,149 --> 00:27:56,320  
what we're doing

480  
00:28:09,510 --> 00:28:06,950  
c1 is ready to be grappled by the ssrms

481  
00:28:10,870 --> 00:28:09,520  
my uh commander charlie hobaugh was a

482  
00:28:13,190 --> 00:28:10,880  
flawless

483  
00:28:14,950 --> 00:28:13,200  
m2 part two

484  
00:28:21,110 --> 00:28:14,960  
all right

485  
00:28:27,110 --> 00:28:24,149  
this is uh randy and i in the uh

486  
00:28:29,269 --> 00:28:27,120  
airlock here we just uh finished our

487  
00:28:30,630 --> 00:28:29,279  
comm checks there you saw my cop cap was

488  
00:28:33,830 --> 00:28:30,640

working then

489

00:28:36,230 --> 00:28:33,840

didn't work so well after that but uh

490

00:28:41,190 --> 00:28:36,240

fixing my hair a little bit uh comrade

491

00:28:45,430 --> 00:28:43,110

frank and jeff are actually grappling

492

00:28:47,590 --> 00:28:45,440

the uh dlc

493

00:28:49,430 --> 00:28:47,600

we're gonna ungrapple with the robotic

494

00:28:51,669 --> 00:28:49,440

arm on the shuttle side and then get

495

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

ready to do the installation he's uh

496

00:28:55,830 --> 00:28:54,399

getting ready to go out on his first eva

497

00:28:59,190 --> 00:28:55,840

he's in the airlock he's getting ready

498

00:29:01,190 --> 00:28:59,200

to go in the suit

499

00:29:01,830 --> 00:29:01,200

mike's already in the suit

500

00:29:03,110 --> 00:29:01,840

all right

501  
00:29:04,870 --> 00:29:03,120

[Music]

502  
00:29:08,470 --> 00:29:04,880  
guys are looking good

503  
00:29:23,029 --> 00:29:09,830  
we couldn't do it without these guys

504  
00:29:27,190 --> 00:29:25,269  
there's comrade going by the app

505  
00:29:28,950 --> 00:29:27,200  
flightcheck window there you can tell by

506  
00:29:30,710 --> 00:29:28,960  
his stripes on his suit

507  
00:29:36,710 --> 00:29:30,720  
that's all

508  
00:29:40,389 --> 00:29:38,389  
the action on the flight deck during the

509  
00:29:44,149 --> 00:29:40,399  
eva scorches is keeping the watchful eye

510  
00:29:48,470 --> 00:29:45,830  
see i was kind of peeking around a

511  
00:29:53,430 --> 00:29:50,870  
this is randy and i uh looks like

512  
00:29:55,990 --> 00:29:53,440  
reinstalling the spmu

513  
00:29:57,750 --> 00:29:56,000

after we drag drug it across the top of

514

00:29:59,909 --> 00:29:57,760

the station

515

00:30:01,430 --> 00:29:59,919

this is video from the mrm okay they're

516

00:30:03,990 --> 00:30:01,440

telling me so

517

00:30:08,149 --> 00:30:04,000

that's uh actually uh taking it down

518

00:30:11,190 --> 00:30:08,159

getting ready to translate with it

519

00:30:13,110 --> 00:30:11,200

copying on all connectors

520

00:30:15,430 --> 00:30:13,120

you can demate

521

00:30:16,389 --> 00:30:15,440

the jet based connectors and the dust

522

00:30:17,190 --> 00:30:16,399

cap

523

00:30:22,149 --> 00:30:17,200

from

524

00:30:22,159 --> 00:30:36,870

i didn't work

525

00:30:36,880 --> 00:31:11,990

beautiful

526  
00:31:15,029 --> 00:31:13,509  
this is a look from one of the external

527  
00:31:18,070 --> 00:31:15,039  
cameras on the international space

528  
00:31:19,750 --> 00:31:18,080  
station at the quest airlock module mike

529  
00:31:21,590 --> 00:31:19,760  
foreman already inside the airlock

530  
00:31:24,389 --> 00:31:21,600  
connecting up to

531  
00:31:26,710 --> 00:31:24,399  
hardline umbilicals randy bresnik making

532  
00:31:32,710 --> 00:31:26,720  
his way back inside the crew lock

533  
00:31:39,909 --> 00:31:35,110  
after the eva start pulling off helmets

534  
00:31:47,750 --> 00:31:41,830  
yeah this uh sometimes the best part of

535  
00:31:47,760 --> 00:31:53,350  
messed up my hair

536  
00:31:57,669 --> 00:31:55,029  
now we got a few more helpers in there

537  
00:32:06,389 --> 00:31:57,679  
because we're uh we have the airlock at

538  
00:32:09,990 --> 00:32:08,230

which is standing on my legs holding my

539

00:32:11,029 --> 00:32:10,000

arms up pushing me down it's kind of

540

00:32:18,950 --> 00:32:11,039

hard to

541

00:32:18,960 --> 00:32:28,630

doing the dance

542

00:32:35,830 --> 00:32:30,149

it's easier to get in than it is to get

543

00:32:39,190 --> 00:32:37,430

how do you like exercise pre-breathing i

544

00:32:40,230 --> 00:32:39,200

like it

545

00:32:54,070 --> 00:32:40,240

okay

546

00:32:54,080 --> 00:32:57,509

all right

547

00:33:02,710 --> 00:33:01,590

russian comrades in the service module

548

00:33:06,789 --> 00:33:02,720

frank and nicole saying hi they're

549

00:33:06,799 --> 00:33:12,789

there's maxine uh closest to us

550

00:33:21,350 --> 00:33:14,389

a little fun with chocolate covered

551

00:33:21,360 --> 00:33:27,269

we are actually in zero g

552

00:33:30,710 --> 00:33:29,110

this is mission control houston again

553

00:33:33,430 --> 00:33:30,720

this is some video that was downlinked

554

00:33:35,669 --> 00:33:33,440

by the crew of celebrations on board the

555

00:33:36,710 --> 00:33:35,679

international space station as randy

556

00:33:38,870 --> 00:33:36,720

bresnik

557

00:33:42,070 --> 00:33:38,880

passed out cigars following the birth of

558

00:33:44,789 --> 00:33:42,080

his new daughter abigail may again she

559

00:33:46,950 --> 00:33:44,799

was born at 1104 pm central time on

560

00:33:50,149 --> 00:33:46,960

november the 21st

561

00:33:55,669 --> 00:33:50,159

weighing in at six pounds 13 ounces 20

562

00:33:59,029 --> 00:33:57,830

just before the crew began its sleep

563

00:34:00,710 --> 00:33:59,039

shift today

564

00:34:02,950 --> 00:34:00,720

randy brednick bresnik had an

565

00:34:04,630 --> 00:34:02,960

opportunity to do a private family

566

00:34:06,310 --> 00:34:04,640

conference talking with

567

00:34:08,790 --> 00:34:06,320

his family on the ground about the

568

00:34:10,230 --> 00:34:08,800

joyous event

569

00:34:12,550 --> 00:34:10,240

so comrade

570

00:34:16,149 --> 00:34:12,560

how does it feel to

571

00:34:19,190 --> 00:34:16,159

be a proud new father of a baby girl

572

00:34:20,869 --> 00:34:19,200

pretty unbelievable bobby

573

00:34:22,790 --> 00:34:20,879

very thankful that

574

00:34:24,790 --> 00:34:22,800

you know everything went well on earth

575

00:34:26,069 --> 00:34:24,800

and that uh everything's gone so well up

576

00:34:29,190 --> 00:34:26,079

here and

577

00:34:32,310 --> 00:34:29,200

you know in span of one day i got to

578

00:34:34,470 --> 00:34:32,320

do an eva for the first time and just

579

00:34:36,389 --> 00:34:34,480

amazed and awed at what i was able to

580

00:34:37,909 --> 00:34:36,399

see but uh

581

00:34:39,270 --> 00:34:37,919

you know like i said during the ebay i

582

00:34:41,510 --> 00:34:39,280

don't think having to see my wife for

583

00:34:43,349 --> 00:34:41,520

the first time but i've never seen more

584

00:34:45,829 --> 00:34:43,359

any more beautiful than being outside

585

00:34:47,589 --> 00:34:45,839

but i think uh thanks for watching once

586

00:34:49,349 --> 00:34:47,599

i get to see the pictures today of our

587

00:34:52,629 --> 00:34:49,359

new daughter eva's going to have to pick

588

00:34:57,750 --> 00:34:55,430

very well stated sir very well stated

589

00:34:59,349 --> 00:34:57,760

congratulations from all of us thanks

590

00:35:01,349 --> 00:34:59,359

all right

591

00:35:03,670 --> 00:35:01,359

first we got to get the the celebratory

592

00:35:05,829 --> 00:35:03,680

pistol

593

00:35:07,150 --> 00:35:05,839

all right

594

00:35:09,910 --> 00:35:07,160

hey rebecca

595

00:35:11,030 --> 00:35:09,920

congratulations from uh

596

00:35:12,390 --> 00:35:11,040

bobby

597

00:35:13,510 --> 00:35:12,400

and uh

598

00:35:15,109 --> 00:35:13,520

also

599

00:35:17,750 --> 00:35:15,119

looks like we got leland in the house

600

00:35:21,190 --> 00:35:17,760

here way to go rebecca

601  
00:35:23,109 --> 00:35:21,200  
you uh endured some serious uh i guess

602  
00:35:25,270 --> 00:35:23,119  
labor pains and things but it was all

603  
00:35:27,349 --> 00:35:25,280  
worth it for that beautiful baby girl

604  
00:35:39,270 --> 00:35:27,359  
and uh we're up here to congratulate you

605  
00:35:43,109 --> 00:35:40,310  
hello

606  
00:35:45,030 --> 00:35:43,119  
we're in the soyuz jeff williams behind

607  
00:35:46,470 --> 00:35:45,040  
the camera we're after the service

608  
00:35:48,069 --> 00:35:46,480  
module on the very back end of the

609  
00:35:49,510 --> 00:35:48,079  
station we're going to transit all the

610  
00:35:51,109 --> 00:35:49,520  
way through to the shuttle show you

611  
00:36:02,230 --> 00:35:51,119  
everything from one end to the other

612  
00:36:16,310 --> 00:36:04,230  
this is the bale the top of the shot

613  
00:36:23,750 --> 00:36:19,430

now we're into the service module

614

00:36:25,349 --> 00:36:23,760

the very aft end of this russian segment

615

00:36:31,109 --> 00:36:25,359

see a lot of the gear the computers

616

00:36:37,510 --> 00:36:34,069

we'll continue forward now

617

00:36:38,829 --> 00:36:37,520

our next stop will be the first juncture

618

00:36:43,190 --> 00:36:38,839

in the russian

619

00:36:46,470 --> 00:36:43,200

segment where we'll look down first

620

00:36:49,270 --> 00:36:46,480

into the docking compartment

621

00:36:51,109 --> 00:36:49,280

and you see a progress

622

00:36:53,109 --> 00:36:51,119

cargo transfer there at the bottom if

623

00:36:55,190 --> 00:36:53,119

you look up now

624

00:36:58,550 --> 00:36:55,200

you'll see the brand new russian segment

625

00:36:59,990 --> 00:36:58,560

the mrm2 the science module

626  
00:37:01,349 --> 00:37:00,000  
got a little bit of gear packed in it

627  
00:37:03,270 --> 00:37:01,359  
for the transit uphill and they're

628  
00:37:04,870 --> 00:37:03,280  
starting to put it into work now we're

629  
00:37:07,270 --> 00:37:04,880  
going to turn around jeff's taking the

630  
00:37:18,790 --> 00:37:07,280  
lead and we're in the fgb

631  
00:37:23,990 --> 00:37:20,950  
a lot of stuff there's food

632  
00:37:26,150 --> 00:37:24,000  
storage some scientific material stuff

633  
00:37:28,390 --> 00:37:26,160  
behind the walls of course stuff on the

634  
00:37:30,390 --> 00:37:28,400  
floor here

635  
00:37:33,270 --> 00:37:30,400  
little mirror here place where you can

636  
00:37:35,510 --> 00:37:33,280  
clean up take a bath

637  
00:37:37,670 --> 00:37:35,520  
and now we're in the next juncture

638  
00:37:41,030 --> 00:37:37,680

where we look down

639

00:37:43,750 --> 00:37:41,040

into the other soyuz that is attached

640

00:37:45,349 --> 00:37:43,760

at the very juncture between the fgb

641

00:37:50,069 --> 00:37:45,359

and node one

642

00:37:52,390 --> 00:37:50,079

jeff's backing up now into node one

643

00:37:55,589 --> 00:37:52,400

through some more storage area and this

644

00:37:57,750 --> 00:37:55,599

uh pma1 this mating adapter

645

00:37:59,510 --> 00:37:57,760

and now we open up into node one you can

646

00:38:02,310 --> 00:37:59,520

see roman here

647

00:38:05,270 --> 00:38:02,320

he's working on a red

648

00:38:06,790 --> 00:38:05,280

and we'll turn around the other way

649

00:38:09,109 --> 00:38:06,800

you can see randy

650

00:38:17,030 --> 00:38:09,119

bobby and mike

651  
00:38:21,589 --> 00:38:19,670  
continuing into the lab say hi frank

652  
00:38:22,790 --> 00:38:21,599  
hello it's our commander

653  
00:38:24,310 --> 00:38:22,800  
commander

654  
00:38:28,310 --> 00:38:24,320  
frank the wind

655  
00:38:28,320 --> 00:38:40,069  
see this basically a bicycle

656  
00:38:51,109 --> 00:38:41,670  
in the flesh

657  
00:38:53,910 --> 00:38:52,550  
various parts of the station we'll look

658  
00:38:55,270 --> 00:38:53,920  
this way

659  
00:38:57,750 --> 00:38:55,280  
into columbus

660  
00:39:00,150 --> 00:38:57,760  
you can see the station space walking

661  
00:39:02,470 --> 00:39:00,160  
suits the emu's or stash there on the

662  
00:39:04,950 --> 00:39:02,480  
ceiling some more storage on the floor

663  
00:39:06,630 --> 00:39:04,960

japanese experimental module

664

00:39:08,390 --> 00:39:06,640

the gem

665

00:39:11,030 --> 00:39:08,400

with another sleep station on the floor

666

00:39:13,270 --> 00:39:11,040

other things stored here and there

667

00:39:14,790 --> 00:39:13,280

a working laboratory

668

00:39:25,990 --> 00:39:14,800

come on we're into the shuttle now

669

00:39:26,000 --> 00:39:33,349

making the 90 degree turn

670

00:39:33,359 --> 00:39:36,870

now we're on the mid deck

671

00:39:40,829 --> 00:39:39,030

there's our commander

672

00:39:42,790 --> 00:39:40,839

charlie hobaugh

673

00:39:44,150 --> 00:39:42,800

starch

674

00:39:51,349 --> 00:39:44,160

and now we're continuing up to the

675

00:39:55,190 --> 00:39:53,030

see the flight deck

676  
00:39:56,710 --> 00:39:55,200  
commander seat pilot seat we got a

677  
00:39:58,710 --> 00:39:56,720  
couple of seats removed here in the back

678  
00:40:00,069 --> 00:39:58,720  
that we'll have for entry

679  
00:40:05,430 --> 00:40:00,079  
and then we'll look out the overhead

680  
00:40:07,750 --> 00:40:06,870  
we certainly hope you've enjoyed your

681  
00:40:11,349 --> 00:40:07,760  
tour

682  
00:40:12,390 --> 00:40:11,359  
from soyuz to shuttle

683  
00:40:13,510 --> 00:40:12,400  
thanks for all the great work

684  
00:40:19,829 --> 00:40:13,520  
everybody's doing on the ground

685  
00:40:24,390 --> 00:40:22,230  
and then it was workout time

686  
00:40:33,430 --> 00:40:24,400  
as there was truly butch on the a-rad

687  
00:40:36,470 --> 00:40:35,270  
and there's our illustrious commander

688  
00:40:38,150 --> 00:40:36,480

storch

689

00:40:39,589 --> 00:40:38,160

pumping about 400 pounds on the bench

690

00:40:50,550 --> 00:40:39,599

press

691

00:40:55,030 --> 00:40:52,630

this is meal time the eva guys have done

692

00:40:57,430 --> 00:40:55,040

a review for their eva tomorrow and then

693

00:40:58,390 --> 00:40:57,440

we got everybody together in the uh note

694

00:41:04,710 --> 00:40:58,400

one

695

00:41:07,990 --> 00:41:06,710

fine cuisine

696

00:41:10,150 --> 00:41:08,000

we do want to say thank you to all our

697

00:41:12,550 --> 00:41:10,160

food preparation folks they really do

698

00:41:13,670 --> 00:41:12,560

have some good chow up here it's tasty

699

00:41:16,630 --> 00:41:13,680

and it's uh

700

00:41:23,990 --> 00:41:19,109

here we are at the airlock

701  
00:41:27,510 --> 00:41:25,829  
it's a phase they go through to get them

702  
00:41:29,589 --> 00:41:27,520  
prepped for eba

703  
00:41:30,950 --> 00:41:29,599  
not a very good shot here but what you

704  
00:41:35,750 --> 00:41:30,960  
can see

705  
00:41:39,190 --> 00:41:35,760  
is nicole and butch are helping

706  
00:41:41,910 --> 00:41:39,200  
randy and bobby get into the suits it's

707  
00:41:43,990 --> 00:41:41,920  
all a phase to purge the nitrogen as

708  
00:41:46,150 --> 00:41:44,000  
they're out of their system before going

709  
00:41:49,430 --> 00:41:46,160  
to the lower pressure outside they're at

710  
00:41:52,790 --> 00:41:49,440  
about 4.2 psi

711  
00:41:54,069 --> 00:41:52,800  
in the suit in 100 oxygen environment

712  
00:41:55,430 --> 00:41:54,079  
it's a uh

713  
00:41:58,309 --> 00:41:55,440

critical phase of prep they actually

714

00:42:00,870 --> 00:41:58,319

spent a whole night at a lower pressure

715

00:42:03,270 --> 00:42:00,880

repressurized came outside

716

00:42:05,670 --> 00:42:03,280

just to get a bite to eat and get ready

717

00:42:09,510 --> 00:42:05,680

go back inside and uh and now it's suit

718

00:42:12,710 --> 00:42:11,030

this is mission control houston as you

719

00:42:14,870 --> 00:42:12,720

can see inside the quest airlock bobby

720

00:42:16,870 --> 00:42:14,880

satcher being moved into the crew

721

00:42:18,230 --> 00:42:16,880

airlock portion of this part of the

722

00:42:20,390 --> 00:42:18,240

station

723

00:42:22,069 --> 00:42:20,400

he's being helped along by commander

724

00:42:33,589 --> 00:42:22,079

charlie hoba

725

00:42:37,349 --> 00:42:35,270

bobby satcher there at the top left part

726

00:42:39,430 --> 00:42:37,359

of your screen

727

00:42:41,990 --> 00:42:39,440

that large white object that is the high

728

00:42:44,150 --> 00:42:42,000

pressurized gas tank that he

729

00:42:47,030 --> 00:42:44,160

and randy bresnik will be focused on for

730

00:42:48,150 --> 00:42:47,040

the first half of today's spacewalk

731

00:42:50,630 --> 00:42:48,160

you're getting a good view of just

732

00:42:53,109 --> 00:42:50,640

exactly how big this gas tank is

733

00:42:55,190 --> 00:42:53,119

it weighs more than 1200 pounds

734

00:42:57,109 --> 00:42:55,200

the entire outside cover is five feet by

735

00:42:59,750 --> 00:42:57,119

six point two feet by four and a half

736

00:43:03,430 --> 00:42:59,760

feet the actual tank on the inside is

737

00:43:06,950 --> 00:43:04,790

if you look at the top of the truss you

738

00:43:09,750 --> 00:43:06,960

can see randy bresnik with these two

739

00:43:13,030 --> 00:43:09,760

missy seven suitcases attached to him as

740

00:43:15,109 --> 00:43:13,040

he continues to move toward elc 2 which

741

00:43:18,950 --> 00:43:15,119

you see there and bobby satcher down

742

00:43:23,190 --> 00:43:21,910

all right stop motion

743

00:43:25,349 --> 00:43:23,200

all right that's easy enough control

744

00:43:28,790 --> 00:43:25,359

it's rotated back

745

00:43:32,870 --> 00:43:30,550

satcher and bresnik now beginning the

746

00:43:35,910 --> 00:43:32,880

delicate process of moving this

747

00:43:38,069 --> 00:43:35,920

1200 pound oxygen tank around

748

00:43:40,630 --> 00:43:38,079

to get a position to be attached to the

749

00:43:52,230 --> 00:43:40,640

station's robotic arm robotic arm will

750

00:43:56,390 --> 00:43:54,230

it's a view from randy resnick's helmet

751  
00:43:57,750 --> 00:43:56,400  
can you can see his reflection there the

752  
00:43:59,990 --> 00:43:57,760  
part that he's working on is basically

753  
00:44:01,270 --> 00:44:00,000  
the carrier pleat for this missy 7

754  
00:44:02,309 --> 00:44:01,280  
experiment this is where it will be

755  
00:44:03,750 --> 00:44:02,319  
mounted

756  
00:44:07,990 --> 00:44:03,760  
until a future flight when it will be

757  
00:44:11,670 --> 00:44:10,550  
to be very very quiet mike's a very busy

758  
00:44:15,750 --> 00:44:11,680  
man

759  
00:44:17,990 --> 00:44:15,760  
he's right in the middle of iv for eva3

760  
00:44:20,069 --> 00:44:18,000  
hey mike do you have a minute sure

761  
00:44:21,349 --> 00:44:20,079  
tell me how it's going it's going well

762  
00:44:23,109 --> 00:44:21,359  
we're just about to get this tank

763  
00:44:24,790 --> 00:44:23,119

installed we got the missy's installed

764

00:44:26,870 --> 00:44:24,800

already and uh

765

00:44:29,030 --> 00:44:26,880

you know iv it's the most stressful job

766

00:44:30,630 --> 00:44:29,040

in the eva world

767

00:44:33,430 --> 00:44:30,640

absolutely your one arm paper hanger

768

00:44:36,069 --> 00:44:33,440

show us your tools mike real quick

769

00:44:38,950 --> 00:44:36,079

wvs cameras over here keeping tapes

770

00:44:41,589 --> 00:44:38,960

running in there i got counters for

771

00:44:44,230 --> 00:44:41,599

sunrise sunset the tape counters i got a

772

00:44:46,790 --> 00:44:44,240

p-e-t clock going here we're right at 2

773

00:44:49,109 --> 00:44:46,800

hours and 15 minutes on the on the eva

774

00:44:50,309 --> 00:44:49,119

right now

775

00:44:51,829 --> 00:44:50,319

it's the best thing about being in the

776

00:44:53,109 --> 00:44:51,839

orbiter is you got these big old windows

777

00:44:54,710 --> 00:44:53,119

you can see them out of right yeah

778

00:44:56,550 --> 00:44:54,720

that's the best thing is the best thing

779

00:44:58,390 --> 00:44:56,560

to be able to see is uh just looking out

780

00:44:59,589 --> 00:44:58,400

the windows we've got nice cameras all

781

00:45:02,710 --> 00:44:59,599

around but

782

00:45:05,510 --> 00:45:02,720

best views out the window

783

00:45:08,470 --> 00:45:07,190

and there goes the station's arm

784

00:45:10,630 --> 00:45:08,480

currently backing away from the high

785

00:45:12,710 --> 00:45:10,640

pressurized gas tank

786

00:45:15,750 --> 00:45:12,720

very nice work guys perfection on both

787

00:45:19,150 --> 00:45:17,910

it's working this installation is now

788

00:45:33,510 --> 00:45:19,160

over

789

00:45:36,790 --> 00:45:35,349

and we already have uh randy getting

790

00:45:38,390 --> 00:45:36,800

some of his equipment off right now he's

791

00:45:40,309 --> 00:45:38,400

out of the airlock

792

00:45:42,790 --> 00:45:40,319

bobby's still

793

00:45:45,589 --> 00:45:42,800

waiting on the other end

794

00:45:50,550 --> 00:45:47,990

they go head to foot foot to head

795

00:45:52,309 --> 00:45:50,560

as they come in

796

00:45:56,309 --> 00:45:52,319

tell us what in the world you guys were

797

00:46:00,470 --> 00:45:58,230

well we started out uh

798

00:46:02,069 --> 00:46:00,480

moving some gear bobby did and then went

799

00:46:04,470 --> 00:46:02,079

over this payload bay grabbed the missy

800

00:46:06,069 --> 00:46:04,480

uh seven experiment

801

00:46:07,990 --> 00:46:06,079

got a tank

802

00:46:10,470 --> 00:46:08,000

put that in down the uh so the station

803

00:46:13,109 --> 00:46:10,480

has more out to o2 then we went out and

804

00:46:15,829 --> 00:46:13,119

uh did some jumpers we did some apfr

805

00:46:17,270 --> 00:46:15,839

some get ahead for other flights and

806

00:46:21,349 --> 00:46:17,280

other than that we enjoyed the

807

00:46:23,109 --> 00:46:21,359

phenomenal view uh that we got to see

808

00:46:26,309 --> 00:46:23,119

yeah i think the biggest things were the

809

00:46:29,349 --> 00:46:26,319

tank and the uh the missy's

810

00:46:32,470 --> 00:46:29,359

the missy's which were the uh material

811

00:46:34,710 --> 00:46:32,480

science uh experiments that comrade put

812

00:46:39,109 --> 00:46:34,720

up on elc2 which looks great by the way

813

00:46:42,710 --> 00:46:40,630

houston

814

00:46:43,910 --> 00:46:42,720

huntsville munich

815

00:46:45,589 --> 00:46:43,920

scuba

816

00:46:47,030 --> 00:46:45,599

moscow

817

00:46:48,470 --> 00:46:47,040

welcome to this

818

00:46:51,270 --> 00:46:48,480

change of command

819

00:46:56,950 --> 00:46:53,670

it has been an honor

820

00:46:57,990 --> 00:46:56,960

a pleasure and a privilege to be able to

821

00:46:59,670 --> 00:46:58,000

work with

822

00:47:01,589 --> 00:46:59,680

this wonderful crew

823

00:47:03,190 --> 00:47:01,599

in expedition 21

824

00:47:05,670 --> 00:47:03,200

it has always been

825

00:47:07,430 --> 00:47:05,680

an honor and a pleasure to work with all

826  
00:47:09,750 --> 00:47:07,440  
the ground teams

827  
00:47:12,150 --> 00:47:09,760  
in the different control centers

828  
00:47:14,069 --> 00:47:12,160  
the support that i have received both

829  
00:47:17,109 --> 00:47:14,079  
from my crew and for the from the

830  
00:47:19,030 --> 00:47:17,119  
control centers has been tremendous and

831  
00:47:21,430 --> 00:47:19,040  
magnificent

832  
00:47:23,750 --> 00:47:21,440  
as the first european commander

833  
00:47:25,670 --> 00:47:23,760  
it has been a great honor to be to be

834  
00:47:27,589 --> 00:47:25,680  
able to fulfill this role

835  
00:47:29,910 --> 00:47:27,599  
and i could have only done this thanks

836  
00:47:32,230 --> 00:47:29,920  
to the help of all my colleagues as well

837  
00:47:33,990 --> 00:47:32,240  
in european astronaut center and all the

838  
00:47:36,309 --> 00:47:34,000

other european astronauts who have flown

839

00:47:39,270 --> 00:47:36,319

before me and who has also shown

840

00:47:41,349 --> 00:47:39,280

excellence in their jobs

841

00:47:43,270 --> 00:47:41,359

we've seen some really cool vehicles

842

00:47:45,750 --> 00:47:43,280

show up here

843

00:47:47,829 --> 00:47:45,760

progress arriving and departing

844

00:47:50,309 --> 00:47:47,839

soyuz arriving and departing shuttles

845

00:47:53,349 --> 00:47:50,319

arriving and departing htv

846

00:47:56,150 --> 00:47:53,359

mplms it's just been a really

847

00:47:57,910 --> 00:47:56,160

uh amazing adventure and i think the

848

00:48:00,069 --> 00:47:57,920

station is better for it

849

00:48:01,190 --> 00:48:00,079

and i'm just really thankful to have had

850

00:48:02,069 --> 00:48:01,200

a part in it

851

00:48:03,670 --> 00:48:02,079

um

852

00:48:06,390 --> 00:48:03,680

i would like to offer just a little bit

853

00:48:07,990 --> 00:48:06,400

of perspective personal perspective on

854

00:48:10,710 --> 00:48:08,000

where we are today the first time i

855

00:48:13,270 --> 00:48:10,720

visited this orbital outpost

856

00:48:15,270 --> 00:48:13,280

there was two modules and no crew on

857

00:48:18,470 --> 00:48:15,280

board we came it had been flying for a

858

00:48:21,030 --> 00:48:18,480

year the air was stale it was hot and

859

00:48:23,270 --> 00:48:21,040

you know obviously no life on board

860

00:48:24,870 --> 00:48:23,280

shortly after that that was uh almost uh

861

00:48:27,270 --> 00:48:24,880

ten years ago nine and a half years ago

862

00:48:28,950 --> 00:48:27,280

or so shortly after that expedition one

863

00:48:31,349 --> 00:48:28,960

launched and we've had a permanent

864

00:48:32,150 --> 00:48:31,359

presence on board the space station now

865

00:48:34,870 --> 00:48:32,160

for

866

00:48:37,030 --> 00:48:34,880

uh nine years about nine years

867

00:48:40,069 --> 00:48:37,040

uh it's been a long and difficult

868

00:48:42,549 --> 00:48:40,079

process and we're here because of the

869

00:48:44,630 --> 00:48:42,559

the the hard work uh

870

00:48:46,470 --> 00:48:44,640

and the program management teams from

871

00:48:48,950 --> 00:48:46,480

all the international partners the

872

00:48:51,589 --> 00:48:48,960

training teams the engineering teams the

873

00:48:54,549 --> 00:48:51,599

ops teams and all the other folks that

874

00:48:57,030 --> 00:48:54,559

have dedicated their lives to this

875

00:48:58,870 --> 00:48:57,040

to developing this space station we

876

00:49:00,950 --> 00:48:58,880

often talk about utilization of the

877

00:49:03,750 --> 00:49:00,960

space station what experiments we're

878

00:49:05,270 --> 00:49:03,760

doing really in this orbital outpost we

879

00:49:07,030 --> 00:49:05,280

are the experiment

880

00:49:10,150 --> 00:49:07,040

and i think that the the achievements

881

00:49:26,390 --> 00:49:10,160

made are a tribute to the team uh again

882

00:49:30,630 --> 00:49:27,349

a little bit and then we'll take

883

00:49:52,340 --> 00:49:30,640

transfer item 9 14.

884

00:49:52,350 --> 00:49:56,710

[Music]

885

00:49:56,720 --> 00:50:09,589

bye

886

00:50:09,599 --> 00:50:18,470

i'm giving you a chance

887

00:50:24,120 --> 00:50:21,829

[Music]

888

00:50:38,630 --> 00:50:24,130

that's cool

889

00:50:40,160 --> 00:50:38,640

[Music]

890

00:50:51,270 --> 00:50:40,170

here

891

00:50:51,280 --> 00:50:58,630

all right butch get ready

892

00:51:03,030 --> 00:51:00,710

on the controls mostly down just going

893

00:51:05,109 --> 00:51:03,040

to want to fly up push it down look at

894

00:51:19,910 --> 00:51:05,119

that 400 feet and we'll start going all

895

00:51:22,309 --> 00:51:21,109

all right the most important thing right

896

00:51:30,150 --> 00:51:22,319

now though is it kind of gave me a

897

00:51:35,670 --> 00:51:34,069

less than 92 i mean minus z

898

00:51:37,109 --> 00:51:35,680

all right you're good to go buddy let's

899

00:51:40,390 --> 00:51:37,119

do it

900

00:51:43,670 --> 00:51:41,670

all right all hooks are driving

901  
00:51:45,030 --> 00:51:43,680  
symmetrically all the hooks close lights

902  
00:51:52,420 --> 00:51:45,040  
are out

903  
00:51:57,990 --> 00:51:54,309  
[Music]

904  
00:52:04,630 --> 00:52:00,150  
pedals are clear i got lblh okay your

905  
00:52:09,430 --> 00:52:07,510  
united states space shuttle atlantis and

906  
00:52:16,069 --> 00:52:09,440  
international space station crew member

907  
00:52:19,910 --> 00:52:18,790  
see you on the ground jeff

908  
00:52:23,670 --> 00:52:19,920  
you bet

909  
00:52:44,309 --> 00:52:26,230  
16 with a 0.18 your opening rate is good

910  
00:52:48,549 --> 00:52:46,069  
the very empty payload bay of the

911  
00:52:50,950 --> 00:52:48,559  
shuttle as atlantis uh has delivered all

912  
00:52:53,349 --> 00:52:50,960  
of its cargo it's bringing home almost a

913  
00:52:55,430 --> 00:52:53,359

ton of supplies on the mid deck and it's

914

00:52:57,030 --> 00:52:55,440

also bringing home nicole stott as she

915

00:52:59,109 --> 00:52:57,040

begins the final leg of her journey back

916

00:53:01,829 --> 00:52:59,119

to earth after spending 87 days aboard

917

00:53:03,829 --> 00:53:01,839

the station as a member of expedition 20

918

00:53:06,549 --> 00:53:03,839

and 21.

919

00:53:06,559 --> 00:53:12,140

you can survive

920

00:53:12,150 --> 00:53:22,549

[Music]

921

00:53:22,559 --> 00:53:32,100

um

922

00:54:09,109 --> 00:53:53,080

[Music]

923

00:54:19,270 --> 00:54:11,349

been showing your budget

924

00:54:23,589 --> 00:54:21,910

shuttle just announced its arrival

925

00:54:36,549 --> 00:54:23,599

at the space shuttle landing facility

926  
00:54:40,470 --> 00:54:38,470  
pilot barry wilmore now

927  
00:54:41,990 --> 00:54:40,480  
in control of the

928  
00:55:04,829 --> 00:54:42,000  
steering of special atlantis for a

929  
00:55:10,710 --> 00:55:08,630  
copy runway 3-3 here in view as

930  
00:55:13,510 --> 00:55:10,720  
commander charlie hobaugh lines special

931  
00:55:47,130 --> 00:55:13,520  
atlantis up for its touchdown in just

932  
00:56:04,710 --> 00:55:51,990  
[Music]

933  
00:56:07,750 --> 00:56:04,720  
commander charlie obama flaring up the

934  
00:56:09,430 --> 00:56:07,760  
shuttle's nose for landing and

935  
00:56:17,349 --> 00:56:09,440  
so you can see the

936  
00:56:17,359 --> 00:56:21,510  
main gear touchdown

937  
00:56:29,829 --> 00:56:23,910  
pilot barry wilmore deploying the

938  
00:56:35,589 --> 00:56:32,549

nose gear touchdown

939

00:56:37,510 --> 00:56:35,599

land is now rolling out on runway 3-3 at

940

00:56:40,510 --> 00:56:37,520

kennedy space center

941

00:56:43,030 --> 00:56:40,520

wrapping up a 4 million 490

942

00:57:00,309 --> 00:56:43,040

138 mile flight to the international

943

00:57:03,670 --> 00:57:02,230

roger will stop atlantis that was a

944

00:57:05,510 --> 00:57:03,680

picture-perfect end to a top fueled

945

00:57:07,030 --> 00:57:05,520

mission to the space station everybody

946

00:57:09,829 --> 00:57:07,040

welcome back to earth especially you

947

00:57:13,589 --> 00:57:09,839

nicole we'll meet you on page 5-3 the

948

00:57:13,599 --> 00:57:20,630

winning first thing

949

00:57:20,640 --> 00:57:33,430

and here comes the crew

950

00:57:38,789 --> 00:57:35,750

charlie bolden our administrator angie

951

00:57:41,349 --> 00:57:38,799

brewer the flow director

952

00:57:43,510 --> 00:57:41,359

mike leinbach the nasa launch director

953

00:57:52,230 --> 00:57:43,520

bob cabana the director of the kennedy

954

00:57:56,789 --> 00:57:54,549

hey good morning we wanted to uh

955

00:57:57,750 --> 00:57:56,799

just say a couple words uh i don't even

956

00:57:59,910 --> 00:57:57,760

know

957

00:58:02,230 --> 00:57:59,920

uh how i can how i can put this but it

958

00:58:05,430 --> 00:58:02,240

we really had truly an amazing mission

959

00:58:08,069 --> 00:58:05,440

uh it was it was it was not us it was

960

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

not uh any single group but it was a

961

00:58:10,630 --> 00:58:09,680

just an incredible team from all around

962

00:58:13,670 --> 00:58:10,640

the nation

963

00:58:14,630 --> 00:58:13,680

uh just talking to someone uh under the

964

00:58:17,270 --> 00:58:14,640

vehicle

965

00:58:19,270 --> 00:58:17,280

and uh it's not about jsc it's not about

966

00:58:22,470 --> 00:58:19,280

ksc it's not about marshall stennis any

967

00:58:24,710 --> 00:58:22,480

of that it's one huge integrated team

968

00:58:26,710 --> 00:58:24,720

that uh really makes something like this

969

00:58:27,510 --> 00:58:26,720

uh uh go

970

00:58:29,589 --> 00:58:27,520

um

971

00:58:32,150 --> 00:58:29,599

we we were lucky i mean part of it's

972

00:58:35,109 --> 00:58:32,160

luck and part of it's just uh pure great

973

00:58:36,950 --> 00:58:35,119

skill workmanship in processing atlantis

974

00:58:40,230 --> 00:58:36,960

and getting it ready for us we had no

975

00:58:41,109 --> 00:58:40,240

hitches we went off on time we landed on

976  
00:58:43,589 --> 00:58:41,119  
time

977  
00:58:44,870 --> 00:58:43,599  
the station's an amazing place

978  
00:58:48,150 --> 00:58:44,880  
i have

979  
00:58:50,870 --> 00:58:48,160  
a cast of five around me that

980  
00:58:52,950 --> 00:58:50,880  
truly made my my life simple i i did

981  
00:58:54,470 --> 00:58:52,960  
nothing but drive the bus a couple times

982  
00:58:55,589 --> 00:58:54,480  
these guys did all the work they were

983  
00:58:59,030 --> 00:58:55,599  
awesome

984  
00:59:00,630 --> 00:58:59,040  
so i was extremely lucky uh nicole

985  
00:59:03,109 --> 00:59:00,640  
came back with us she's doing great

986  
00:59:04,950 --> 00:59:03,119  
she's headed back to see her family

987  
00:59:05,990 --> 00:59:04,960  
and and she did an amazing job on

988  
00:59:10,470 --> 00:59:06,000

station

989

00:59:12,470 --> 00:59:10,480

just like the shuttle it's truly an

990

00:59:14,230 --> 00:59:12,480

amazing vehicle and it's an incredible

991

00:59:16,230 --> 00:59:14,240

thrill to be able to participate in

992

00:59:18,230 --> 00:59:16,240

something like this and it can't happen

993

00:59:19,829 --> 00:59:18,240

without the tens of thousands of people

994

00:59:22,549 --> 00:59:19,839

that pour their hearts and souls into

995

00:59:24,150 --> 00:59:22,559

the space program that support us

996

00:59:25,910 --> 00:59:24,160

and make this something like this happen

997

00:59:30,170 --> 00:59:25,920

so we just want to thank you all