



1
00:03:24,940 --> 00:04:16,920

I

2
00:04:22,540 --> 00:04:20,530

good morning it last time to get down to

3
00:04:32,409 --> 00:04:22,550

the business of space flight and orbital

4
00:04:39,280 --> 00:04:32,419

ops oh thanks about here cuz i guess

5
00:04:41,800 --> 00:04:39,290

that'll get us started and Ethan we did

6
00:04:44,500 --> 00:04:41,810

want to thank and congratulate money

7
00:04:47,800 --> 00:04:44,510

Schmidt on the prep console who has been

8
00:04:49,810 --> 00:04:47,810

working 50 flights this is his 50th

9
00:04:51,730 --> 00:04:49,820

flight and I tell you we don't worry it

10
00:04:53,320 --> 00:04:51,740

all about top when he's on the console

11
00:04:56,980 --> 00:04:53,330

and we thank him for all his years of

12
00:04:58,780 --> 00:04:56,990

good service all of the questions that

13
00:05:09,640 --> 00:04:58,790

he's answered for me over the years so

14

00:05:15,200 --> 00:05:12,860

Thank You Jimmy heard the words and if

15

00:05:16,730 --> 00:05:15,210

you look off to your northeast there's

16

00:05:23,659 --> 00:05:16,740

people outside waving at you right now

17

00:05:30,170 --> 00:05:23,669

and Atlantis mere houston we got a nice

18

00:05:53,729 --> 00:05:30,180

picture back in the space I have okay

19

00:06:06,159 --> 00:06:03,549

Houston Atlantis fair go ahead Misha

20

00:06:09,399 --> 00:06:06,169

receives the message she will talk to

21

00:06:14,019 --> 00:06:09,409

Moscow at the appointed time and the

22

00:06:17,079 --> 00:06:14,029

professional equipment of growth crew

23

00:06:20,499 --> 00:06:17,089

members has been transferred the seat is

24

00:06:24,759 --> 00:06:20,509

being installed and check out is not yet

25

00:08:16,750 --> 00:06:24,769

complete got all that Jim thanks for the

26
00:08:21,710 --> 00:08:20,180
okay when I copy down was he want us to

27
00:08:24,440 --> 00:08:21,720
notify you the completion of the

28
00:08:28,130 --> 00:08:24,450
treadmill test also notify you when the

29
00:08:33,530 --> 00:08:28,140
VRC s test begins and it's scheduled now

30
00:08:35,810 --> 00:08:33,540
to begin at 1725 i also need to notify

31
00:08:38,150 --> 00:08:35,820
me or the start of that test and i need

32
00:08:43,580 --> 00:08:38,160
to update the flight Pan Am pages 34 and

33
00:08:48,320 --> 00:08:43,590
35 to start shuttle free drift at 1754

34
00:09:12,960 --> 00:08:48,330
and near takes control at 1755 thanks

35
00:09:12,970 --> 00:09:17,840
go ahead

36
00:09:24,980 --> 00:09:22,180
as well we've just completed the Miz the

37
00:09:28,879 --> 00:09:24,990
treadmill exercise and all that was

38
00:09:37,400 --> 00:09:28,889

executed for the timeline on time great

39

00:09:41,660 --> 00:09:37,410

Mike thanks like to welcome you on

40

00:09:47,660 --> 00:09:41,670

behalf of the ground as the newest crew

41

00:09:50,660 --> 00:09:47,670

member on board Atlantis great pleasure

42

00:09:58,579 --> 00:09:50,670

to be shredding it on the US metal if

43

00:10:00,319 --> 00:09:58,589

not soiled thank you very much sir NASA

44

00:10:02,509 --> 00:10:00,329

didn't decide to send you up in the

45

00:10:04,249 --> 00:10:02,519

shuttle until the last minute last week

46

00:10:06,710 --> 00:10:04,259

apparently because of concerns about

47

00:10:13,069 --> 00:10:06,720

your safety now that you're up how do

48

00:10:14,809 --> 00:10:13,079

you was a decision okay you're a little

49

00:10:17,180 --> 00:10:14,819

broken at the end but I think you asked

50

00:10:19,490 --> 00:10:17,190

him am I happy with the decision and the

51
00:10:21,499 --> 00:10:19,500
answer is absolutely yes I always

52
00:10:24,079 --> 00:10:21,509
believed that I was going on this

53
00:10:25,879 --> 00:10:24,089
mission and I'm thankful that everybody

54
00:10:28,340 --> 00:10:25,889
looked carefully at the options and the

55
00:10:30,559 --> 00:10:28,350
safety issues that I felt confident the

56
00:10:33,889 --> 00:10:30,569
more they looked the more comfortable

57
00:10:35,840 --> 00:10:33,899
they would be with the whole mission mr.

58
00:10:37,730 --> 00:10:35,850
wolf all the world knows about the

59
00:10:39,710 --> 00:10:37,740
problems that the space station has been

60
00:10:47,240 --> 00:10:39,720
plagued with aren't you just the

61
00:10:49,280 --> 00:10:47,250
slightest bit worried I've got one of

62
00:10:51,559 --> 00:10:49,290
the finest spacecraft commanders in the

63
00:10:54,249 --> 00:10:51,569

world sitting right next to me here

64

00:10:56,269 --> 00:10:54,259

floating right next to me and

65

00:10:59,689 --> 00:10:56,279

particularly after being up here and

66

00:11:01,009 --> 00:10:59,699

seeing the quality of this machine first

67

00:11:03,160 --> 00:11:01,019

of all I'm having too much fun and

68

00:11:05,480 --> 00:11:03,170

enjoying it too much to be nervous and

69

00:11:07,100 --> 00:11:05,490

really the answer is no I'm very

70

00:11:11,120 --> 00:11:07,110

comfortable we're well trained to handle

71

00:11:14,059 --> 00:11:11,130

any reasonable emergency well we wish

72

00:11:16,579 --> 00:11:14,069

you well now to the soon to be departing

73

00:11:18,410 --> 00:11:16,589

American astronaut michael foale mr.

74

00:11:20,689 --> 00:11:18,420

pole you're leaving near after four and

75

00:11:25,790 --> 00:11:20,699

a half months stand how happy are you to

76

00:11:27,500 --> 00:11:25,800

be getting off the space station oh I

77

00:11:29,750 --> 00:11:27,510

wouldn't be honest to say that I was not

78

00:11:30,350 --> 00:11:29,760

happy I have a good friend here and I

79

00:11:32,960 --> 00:11:30,360

told you so

80

00:11:34,370 --> 00:11:32,970

and Pavel Vinogradov livia support

81

00:11:38,540 --> 00:11:34,380

engineer the flight engineer on one

82

00:11:40,069 --> 00:11:38,550

station but I have a son at home who a

83

00:11:42,590 --> 00:11:40,079

party has grown twice this height since

84

00:11:45,470 --> 00:11:42,600

I last saw him and my daughter of my

85

00:11:47,030 --> 00:11:45,480

wife and so I really do want to see them

86

00:11:49,100 --> 00:11:47,040

badly and I would have been disappointed

87

00:11:51,019 --> 00:11:49,110

if the talking hadn't gone on time I'm

88

00:11:53,600 --> 00:11:51,029

very pleased to be going back to them

89

00:11:55,160 --> 00:11:53,610

and seeing them again soon this is one

90

00:11:58,340 --> 00:11:55,170

of the most rewarding experiences I've

91

00:12:00,590 --> 00:11:58,350

had in my life it will have changed me

92

00:12:02,540 --> 00:12:00,600

I'm sure and what I wrote back on this

93

00:12:05,600 --> 00:12:02,550

only we were the greatest fondness for

94

00:12:07,699 --> 00:12:05,610

the times I spent with Anatole Bible and

95

00:12:10,639 --> 00:12:07,709

the crew before that the city civil air

96

00:12:13,160 --> 00:12:10,649

and faster was it can there were many

97

00:12:15,440 --> 00:12:13,170

problems during your tour of duty could

98

00:12:20,030 --> 00:12:15,450

you tell us what the worst or scariest

99

00:12:22,699 --> 00:12:20,040

thing was that happened well it was

100

00:12:26,740 --> 00:12:22,709

definitely when the the progress cargo

101
00:12:30,170 --> 00:12:26,750
vehicle was about to hit the spectra and

102
00:12:31,970 --> 00:12:30,180
at that time I do something bad was

103
00:12:33,380 --> 00:12:31,980
going to happen and I follow the

104
00:12:35,660 --> 00:12:33,390
instructions of the crew and went

105
00:12:38,960 --> 00:12:35,670
towards the Soyuz spacecraft which is

106
00:12:41,750 --> 00:12:38,970
our 50 vehicle and for crew return of in

107
00:12:43,460 --> 00:12:41,760
case of an emergency and at the moment

108
00:12:45,050 --> 00:12:43,470
of impact that was probably the scariest

109
00:12:46,850 --> 00:12:45,060
moment because I didn't know what was

110
00:12:48,889 --> 00:12:46,860
going to break and how fast the air was

111
00:12:51,290 --> 00:12:48,899
going to rush out the door turned out it

112
00:12:54,199 --> 00:12:51,300
was ok and we managed to control the

113
00:12:56,870 --> 00:12:54,209

league and we feel dr. Spector Anatoly

114

00:12:58,819 --> 00:12:56,880

started work in doing the repair and

115

00:13:00,650 --> 00:12:58,829

establishment again of the power from

116

00:13:02,180 --> 00:13:00,660

that module for the station so it all

117

00:13:06,050 --> 00:13:02,190

worked out well but at that time I was

118

00:13:08,810 --> 00:13:06,060

quite scared are you at all frustrated

119

00:13:14,840 --> 00:13:08,820

that so many problems kept you from

120

00:13:16,400 --> 00:13:14,850

doing more scientific experiments well

121

00:13:18,710 --> 00:13:16,410

there are pluses and minus and when you

122

00:13:20,300 --> 00:13:18,720

have problems the pluses are those that

123

00:13:21,590 --> 00:13:20,310

you suddenly find your serving you

124

00:13:23,569 --> 00:13:21,600

problems you didn't expect quite

125

00:13:26,060 --> 00:13:23,579

challenging ones for example I actually

126

00:13:28,250 --> 00:13:26,070

got to do a spacewalk and EBA without

127

00:13:30,680 --> 00:13:28,260

atole quite unexpectedly I did not

128

00:13:32,030 --> 00:13:30,690

expect that because of the problems so

129

00:13:32,650 --> 00:13:32,040

that was a very interesting and

130

00:13:35,199 --> 00:13:32,660

rewarding thing

131

00:13:36,610 --> 00:13:35,209

for me to do however one of the mine

132

00:13:39,430 --> 00:13:36,620

instances that I didn't really start

133

00:13:41,230 --> 00:13:39,440

turning on some of the experiments I was

134

00:13:43,329 --> 00:13:41,240

meant to do imperata and so it's just

135

00:13:44,860 --> 00:13:43,339

this last week and so there's some

136

00:13:46,360 --> 00:13:44,870

disappointment there but David's going

137

00:13:49,809 --> 00:13:46,370

to pickle those up and I hope he will

138

00:13:51,759 --> 00:13:49,819

execute them just fine and now I'd like

139

00:13:54,699 --> 00:13:51,769

to turn to the Russian commander of

140

00:13:56,769 --> 00:13:54,709

mirror Anatoly celeb commander with the

141

00:13:59,139 --> 00:13:56,779

new equipment that Atlanta has brought

142

00:14:00,699 --> 00:13:59,149

to a mirror how confident are you that

143

00:14:08,379 --> 00:14:00,709

the problems aboard the space station

144

00:14:10,720 --> 00:14:08,389

will be eliminated the shuttle has

145

00:14:13,150 --> 00:14:10,730

delivered to mere new equipment oh my

146

00:14:15,910 --> 00:14:13,160

own with the help of which we hope to be

147

00:14:20,699 --> 00:14:15,920

able to obtain positive report results

148

00:14:23,230 --> 00:14:20,709

of repair right now it's too early to

149

00:14:25,269 --> 00:14:23,240

assess or to say that we'll be able to

150

00:14:27,069 --> 00:14:25,279

do everything successfully and that will

151
00:14:29,740 --> 00:14:27,079
be able to do all of this with regard to

152
00:14:31,749 --> 00:14:29,750
the repair but the chances are very good

153
00:14:39,009 --> 00:14:31,759
and very large and I think that in the

154
00:14:40,900 --> 00:14:39,019
course of one or two Evie ASAP at all

155
00:14:42,879 --> 00:14:40,910
what they put in having performed this

156
00:14:47,069 --> 00:14:42,889
repairs I think will have positive

157
00:14:49,179 --> 00:14:47,079
results and we will be able to say look

158
00:14:51,280 --> 00:14:49,189
we'll be able to talk about the time

159
00:14:56,889 --> 00:14:51,290
when we'll be able to open up the hatch

160
00:14:59,379 --> 00:14:56,899
to Spector after mr. foal and Atlantis

161
00:15:06,100 --> 00:14:59,389
leave the space station what's the first

162
00:15:08,019 --> 00:15:06,110
order of business none of the shuttle

163
00:15:11,319 --> 00:15:08,029

has brought us a new computer we will

164

00:15:14,829 --> 00:15:11,329

replace the old one this will take do I

165

00:15:17,980 --> 00:15:14,839

put it two or three days Oh in fact

166

00:15:21,960 --> 00:15:17,990

while the shuttle will still be here boo

167

00:15:24,759 --> 00:15:21,970

both gravity will be some small repairs

168

00:15:29,189 --> 00:15:24,769

Portobello but we after the shuttle

169

00:15:31,900 --> 00:15:29,199

leaves right after two days we will be

170

00:15:34,230 --> 00:15:31,910

expecting a new cargo craft which will

171

00:15:37,629 --> 00:15:34,240

also be delivering equipment a resupply

172

00:15:40,660 --> 00:15:37,639

to the mere complex where this will

173

00:15:45,430 --> 00:15:40,670

allow us to continue our work but i

174

00:15:48,400 --> 00:15:45,440

think my impressions are what we are

175

00:15:50,440 --> 00:15:48,410

we're placing more of an emphasis on our

176

00:15:53,200 --> 00:15:50,450

scientific work over the next couple of

177

00:15:55,450 --> 00:15:53,210

weeks and we have been doing this and

178

00:15:57,280 --> 00:15:55,460

we've been working actively in

179

00:15:59,650 --> 00:15:57,290

scientific experiments and the

180

00:16:02,920 --> 00:15:59,660

percentage of our scientific work will

181

00:16:05,380 --> 00:16:02,930

continue to increase well you're seeing

182

00:16:06,970 --> 00:16:05,390

what do you make of the argument the

183

00:16:08,980 --> 00:16:06,980

criticisms from people like congressman

184

00:16:11,200 --> 00:16:08,990

james sensenbrenner that another

185

00:16:15,760 --> 00:16:11,210

American should not have gone to the

186

00:16:18,030 --> 00:16:15,770

mirror do not see a question on that

187

00:16:20,380 --> 00:16:18,040

I've thought long and hard about

188

00:16:22,450 --> 00:16:20,390

American involvement in this program and

189

00:16:24,460 --> 00:16:22,460

also whether someone that should follow

190

00:16:27,490 --> 00:16:24,470

in behind me and I think it's very

191

00:16:30,220 --> 00:16:27,500

important that he continued the work

192

00:16:31,600 --> 00:16:30,230

here is not always easy and some of the

193

00:16:33,670 --> 00:16:31,610

experiments are interrupted by the

194

00:16:36,040 --> 00:16:33,680

repair work in the the necessary

195

00:16:38,290 --> 00:16:36,050

maintenance to start on this station but

196

00:16:41,230 --> 00:16:38,300

the value in working together with our

197

00:16:43,600 --> 00:16:41,240

Russian colleagues is I think priceless

198

00:16:45,430 --> 00:16:43,610

and as a result of that work that we're

199

00:16:47,740 --> 00:16:45,440

doing right now and the experience we're

200

00:16:50,620 --> 00:16:47,750

gaining not just with David myself and

201
00:16:52,810 --> 00:16:50,630
anatomy and our russian cosmonauts but

202
00:16:55,330 --> 00:16:52,820
also on the ground most important we

203
00:16:57,640 --> 00:16:55,340
will do so much better a great space

204
00:17:00,370 --> 00:16:57,650
project together internationally with

205
00:17:02,650 --> 00:17:00,380
Russia know if you realize this but

206
00:17:04,540 --> 00:17:02,660
after you blast it off your mother was

207
00:17:06,460 --> 00:17:04,550
quoted as saying she hoped you would

208
00:17:16,120 --> 00:17:06,470
brought your screwdriver are you seeing

209
00:17:19,470 --> 00:17:16,130
what for your screwdriver up there there

210
00:17:22,240 --> 00:17:19,480
goes my comb but here's my screwdriver

211
00:17:24,040 --> 00:17:22,250
what have you been hearing from dr. pol

212
00:17:25,329 --> 00:17:24,050
what has he told you and shared with you

213
00:17:31,750 --> 00:17:25,339

about what you can expect in the next

214

00:17:35,050 --> 00:17:31,760

four months he's assured be and that's

215

00:17:39,060 --> 00:17:35,060

very clear an experience of my life this

216

00:17:42,250 --> 00:17:39,070

is just an amazing outpost of scientific

217

00:17:44,920 --> 00:17:42,260

civilization with Russians meet

218

00:17:48,460 --> 00:17:44,930

Americans in orbit at 18,000 miles an

219

00:17:50,800 --> 00:17:48,470

hour in an orbiting laboratory it's just

220

00:17:53,710 --> 00:17:50,810

an incredible place I wish you could get

221

00:17:55,590 --> 00:17:53,720

a panorama of the equipment and the gear

222

00:17:59,460 --> 00:17:55,600

and the people working behind

223

00:18:01,970 --> 00:17:59,470

this shuttling gear back and forth this

224

00:18:04,470 --> 00:18:01,980

is just an incredible of that going on

225

00:18:07,080 --> 00:18:04,480

during the collision with the progress

226

00:18:09,510 --> 00:18:07,090

back in June you were inside can you

227

00:18:16,890 --> 00:18:09,520

describe for us what happened and what

228

00:18:19,320 --> 00:18:16,900

it felt like the collision basically was

229

00:18:21,960 --> 00:18:19,330

unexpected we were expecting the

230

00:18:27,120 --> 00:18:21,970

progress to not talk with us for another

231

00:18:28,680 --> 00:18:27,130

15 minutes or so but when I heard the

232

00:18:30,390 --> 00:18:28,690

collision there was just a son of a tall

233

00:18:32,610 --> 00:18:30,400

rumble in the station it was a bit like

234

00:18:35,909 --> 00:18:32,620

distant thunder at that time I thought

235

00:18:39,980 --> 00:18:35,919

it was behind us at the far end here

236

00:18:43,620 --> 00:18:39,990

where the focus is expected to talk on

237

00:18:47,970 --> 00:18:43,630

other than that the dark rumble and the

238

00:18:51,090 --> 00:18:47,980

thud nothing much else happened over

239

00:18:52,950 --> 00:18:51,100

about five or so more seconds we have an

240

00:18:54,630 --> 00:18:52,960

alarm signal is the Karaka klaxon and

241

00:18:56,279 --> 00:18:54,640

that went off telling us that the

242

00:18:58,950 --> 00:18:56,289

pressure was decreasing which confirmed

243

00:19:03,870 --> 00:18:58,960

my fear that we had had a breach of

244

00:19:06,630 --> 00:19:03,880

station fall very quickly after that my

245

00:19:09,029 --> 00:19:06,640

feelings were staged because I realized

246

00:19:12,539 --> 00:19:09,039

the pressure in my ears is not dropping

247

00:19:14,789 --> 00:19:12,549

very fast and so I knew immediately just

248

00:19:17,279 --> 00:19:14,799

by the feeling in my ears that we had

249

00:19:20,279 --> 00:19:17,289

time to try and find the leak and close

250

00:19:23,279 --> 00:19:20,289

it off and that's how it turned out dr.

251
00:19:26,580 --> 00:19:23,289
wolf briefly if you will explain what

252
00:19:28,919 --> 00:19:26,590
you expect to gain scientifically over

253
00:19:30,779 --> 00:19:28,929
the next four months or so and I assume

254
00:19:32,970 --> 00:19:30,789
that there's some experiments you'll

255
00:19:40,680 --> 00:19:32,980
pick up that dr. pol didn't get a chance

256
00:19:43,080 --> 00:19:40,690
to complete that's right we're doing a

257
00:19:46,260 --> 00:19:43,090
nice suite of experiments on the human

258
00:19:49,789 --> 00:19:46,270
cardiovascular system and bone and

259
00:19:53,100 --> 00:19:49,799
mineral loss of the people's bones

260
00:19:56,250 --> 00:19:53,110
demineralized similar to osteoporosis of

261
00:19:58,620 --> 00:19:56,260
the elderly when were in space in

262
00:20:01,230 --> 00:19:58,630
looking very carefully at that and how

263
00:20:03,720 --> 00:20:01,240

to prevent it exercise to keep the

264

00:20:04,500 --> 00:20:03,730

muscle atrophy from occurring we don't

265

00:20:07,910 --> 00:20:04,510

know how long

266

00:20:11,250 --> 00:20:07,920

how much or what type at this point

267

00:20:14,160 --> 00:20:11,260

protein crystals and alloy production

268

00:20:15,960 --> 00:20:14,170

our material sciences experiments and

269

00:20:17,790 --> 00:20:15,970

we're doing cancer research and

270

00:20:19,770 --> 00:20:17,800

preliminary work for our tissue

271

00:20:22,470 --> 00:20:19,780

engineering work that we plan for

272

00:20:24,450 --> 00:20:22,480

station looking at how cells go from