



1
00:02:20,630 --> 00:18:42,310
Oh

2
00:18:42,320 --> 00:18:48,000
visit our gallery

3
00:18:54,400 --> 00:18:51,570
deputy chief astronaut mike barratt Mike

4
00:18:56,919 --> 00:18:54,410
Soyuz vehicle on the launch pad here in

5
00:18:59,380 --> 00:18:56,929
Baikonur after very very careful

6
00:19:01,360 --> 00:18:59,390
meticulous preparation this will be the

7
00:19:03,669 --> 00:19:01,370
first launch of an American astronaut of

8
00:19:06,070 --> 00:19:03,679
the post shuttle era your thoughts are

9
00:19:08,260 --> 00:19:06,080
the significance and the importance of

10
00:19:10,390 --> 00:19:08,270
this moment well there's a lot of

11
00:19:13,210 --> 00:19:10,400
reasons to be significant for this new

12
00:19:15,430 --> 00:19:13,220
launch here obviously with the shuttles

13
00:19:16,900 --> 00:19:15,440

passing the shuttle did what it was

14

00:19:19,450 --> 00:19:16,910

designed to do which was to build the

15

00:19:21,580 --> 00:19:19,460

International Space Station so now we're

16

00:19:23,799 --> 00:19:21,590

turning our our attentions towards

17

00:19:26,409 --> 00:19:23,809

utilization and this world-class

18

00:19:28,360 --> 00:19:26,419

laboratory that's in space pretty much

19

00:19:30,970 --> 00:19:28,370

starting now will be dedicated almost

20

00:19:32,740 --> 00:19:30,980

completely to producing science and

21

00:19:34,270 --> 00:19:32,750

technology and everything that we wanted

22

00:19:36,669 --> 00:19:34,280

to get the experience of human space

23

00:19:38,919 --> 00:19:36,679

flight and the knowledge to stay long

24

00:19:40,990 --> 00:19:38,929

periods and expect people to be healthy

25

00:19:43,210 --> 00:19:41,000

up there and then very productive so

26

00:19:45,970 --> 00:19:43,220

it's a big time for us right now to see

27

00:19:48,310 --> 00:19:45,980

his transition to that era just a few

28

00:19:50,200 --> 00:19:48,320

months ago the Russians had the setback

29

00:19:52,680 --> 00:19:50,210

when they so used rooster the loss of

30

00:19:54,820 --> 00:19:52,690

the unmanned progress he recently

31

00:19:57,370 --> 00:19:54,830

successfully launched a progress to the

32

00:19:59,320 --> 00:19:57,380

station what is your level of confidence

33

00:20:01,870 --> 00:19:59,330

and your thoughts about how quickly they

34

00:20:04,630 --> 00:20:01,880

recovered from well obviously to get to

35

00:20:06,850 --> 00:20:04,640

this point to have the soyuz tma-22 on

36

00:20:09,010 --> 00:20:06,860

the launch pad and ready to go a lot of

37

00:20:12,399 --> 00:20:09,020

people gathered a lot of technicians and

38

00:20:13,659 --> 00:20:12,409

very smart people got together to this

39

00:20:16,470 --> 00:20:13,669

incident that happened with the progress

40

00:20:18,909 --> 00:20:16,480

and I think an unprecedented response

41

00:20:21,850 --> 00:20:18,919

really was mounted to figure this out

42

00:20:23,200 --> 00:20:21,860

whole engine blocks numbers of engines

43

00:20:26,680 --> 00:20:23,210

that have been produced were recalled

44

00:20:28,779 --> 00:20:26,690

and examined and tested and i think that

45

00:20:30,760 --> 00:20:28,789

the engines that we have now here on the

46

00:20:32,950 --> 00:20:30,770

third stage of this rocket are probably

47

00:20:35,049 --> 00:20:32,960

those were most confident in at any

48

00:20:37,270 --> 00:20:35,059

other launch i think with the

49

00:20:39,220 --> 00:20:37,280

reliability record with the soyuz over

50

00:20:42,340 --> 00:20:39,230

these past decades i think we're very

51
00:20:44,049 --> 00:20:42,350
confident between that record and the

52
00:20:46,210 --> 00:20:44,059
effort that these guys put into it that

53
00:20:47,930 --> 00:20:46,220
this should be a very safe launch the

54
00:20:51,289 --> 00:20:47,940
long months of training for Denver

55
00:20:53,629 --> 00:20:51,299
bank now at an end what is his level of

56
00:20:55,369 --> 00:20:53,639
preparedness what's his food as he

57
00:20:57,560 --> 00:20:55,379
prepares for launch and how complicated

58
00:20:59,659 --> 00:20:57,570
will disagreement I was a great question

59
00:21:02,029 --> 00:20:59,669
obviously we're a few weeks later than

60
00:21:04,039 --> 00:21:02,039
we expected to be and i would say that

61
00:21:05,389 --> 00:21:04,049
Dan is about as prepared as anybody has

62
00:21:06,649 --> 00:21:05,399
ever been before going to the

63
00:21:08,810 --> 00:21:06,659

International Space Station because

64

00:21:10,820 --> 00:21:08,820

we've used that time to do further

65

00:21:12,950 --> 00:21:10,830

training and with the current

66

00:21:14,779 --> 00:21:12,960

circumstance so be a very short hand

67

00:21:17,990 --> 00:21:14,789

over time as we call it between the off

68

00:21:20,119 --> 00:21:18,000

going crew and dad and his crew so we've

69

00:21:22,999 --> 00:21:20,129

had to maximize training to the extent

70

00:21:26,749 --> 00:21:23,009

possible the folks on board Noah Satoshi

71

00:21:28,759 --> 00:21:26,759

and Mike Fossum and Sergei Volkov

72

00:21:31,310 --> 00:21:28,769

they've all sent down training videos

73

00:21:33,019 --> 00:21:31,320

and essentially instructions to make

74

00:21:35,810 --> 00:21:33,029

that as efficient as possible I think

75

00:21:38,149 --> 00:21:35,820

Dan and his crew are incredibly ready to

76
00:21:40,369 --> 00:21:38,159
go as far as their mission every mission

77
00:21:42,110 --> 00:21:40,379
is complex up there one of the things

78
00:21:44,419 --> 00:21:42,120
they're going to need to do is back out

79
00:21:45,889 --> 00:21:44,429
of some of the D crewing activities that

80
00:21:48,379 --> 00:21:45,899
we've been doing in the off chance that

81
00:21:49,909 --> 00:21:48,389
we weren't able to watch the Soyuz on

82
00:21:52,159 --> 00:21:49,919
time we wanted to be sure that the

83
00:21:54,379 --> 00:21:52,169
station was ready to work on man

84
00:21:56,749 --> 00:21:54,389
essentially to be an autonomous vehicle

85
00:21:58,460 --> 00:21:56,759
for a while that took a lot to do and

86
00:22:00,499 --> 00:21:58,470
they'll have to undo some of that work

87
00:22:02,450 --> 00:22:00,509
but then they'll get down to the work of

88
00:22:04,430 --> 00:22:02,460

doing science and that's of course what

89

00:22:06,200 --> 00:22:04,440

the station was built for it won't be

90

00:22:08,629 --> 00:22:06,210

long before they'll be joined by the

91

00:22:10,279 --> 00:22:08,639

next crew in December that'll bring us

92

00:22:12,799 --> 00:22:10,289

back up to the full crew complement of

93

00:24:57,000 --> 00:22:12,809

six and again the station can really

94

00:25:01,010 --> 00:24:59,520

no nurse admire the associate

95

00:25:03,250 --> 00:25:01,020

administrator for human exploration

96

00:25:06,820 --> 00:25:03,260

operations built

97

00:25:10,060 --> 00:25:06,830

so use on the pad ready to launch on

98

00:25:13,510 --> 00:25:10,070

November 14 this will be the first

99

00:25:15,940 --> 00:25:13,520

launch of an American post-shock your

100

00:25:18,930 --> 00:25:15,950

thoughts on the significance and how

101

00:25:21,630 --> 00:25:18,940

critical this time is

102

00:25:24,980 --> 00:25:21,640

get the station back to a six person

103

00:25:28,320 --> 00:25:24,990

operation and all the increment work

104

00:25:30,000 --> 00:25:28,330

you know is that is I think about it you

105

00:25:31,980 --> 00:25:30,010

know we've been flying onda soy use for

106

00:25:34,050 --> 00:25:31,990

a pretty extended period of time even

107

00:25:35,970 --> 00:25:34,060

while the shuttle is flying so I don't

108

00:25:38,220 --> 00:25:35,980

see it as a big difference is this is

109

00:25:40,920 --> 00:25:38,230

the first American post shuttle to go

110

00:25:42,150 --> 00:25:40,930

fly but but I still look at what the

111

00:25:43,890 --> 00:25:42,160

Russians are doing and getting the

112

00:25:45,330 --> 00:25:43,900

rocket ready to go fly after the

113

00:25:48,390 --> 00:25:45,340

progress failure and they've done a

114

00:25:49,830 --> 00:25:48,400

tremendous job of really investigating

115

00:25:51,600 --> 00:25:49,840

and thoroughly understanding what's

116

00:25:54,480 --> 00:25:51,610

going on and they're ready to go fly

117

00:25:56,160 --> 00:25:54,490

today and it's a really amazing to see

118

00:25:58,500 --> 00:25:56,170

the teams working here on the rocket

119

00:26:00,120 --> 00:25:58,510

getting it unbolt of getting it erected

120

00:26:02,220 --> 00:26:00,130

to see the Russians going through

121

00:26:04,160 --> 00:26:02,230

step-by-step getting a rocket prepared

122

00:26:06,780 --> 00:26:04,170

and they're doing a great job today so

123

00:26:08,220 --> 00:26:06,790

I'm very impressed with what I see with

124

00:26:11,540 --> 00:26:08,230

the Russians and their teamwork in

125

00:26:14,640 --> 00:26:11,550

preparation for today only three months

126
00:26:18,090 --> 00:26:14,650
have passed since the progress accident

127
00:26:21,240 --> 00:26:18,100
very aggressive work that the road

128
00:26:23,490 --> 00:26:21,250
into the posture that we're at today two

129
00:26:27,650 --> 00:26:23,500
launches and a landing now within a five

130
00:26:30,539 --> 00:26:27,660
week period your thoughts on what this

131
00:26:33,200 --> 00:26:30,549
moment I'm represents in terms of the

132
00:26:36,659 --> 00:26:33,210
aggressiveness of what the Russians are

133
00:26:38,520 --> 00:26:36,669
it's a pretty pretty intense launch

134
00:26:41,039 --> 00:26:38,530
tempo they have planned for themselves

135
00:26:43,529 --> 00:26:41,049
here but again you know I don't sense

136
00:26:46,409 --> 00:26:43,539
any rushing or anything being cut in

137
00:26:48,690 --> 00:26:46,419
terms of preparation and preparedness

138
00:26:51,090 --> 00:26:48,700

again the Russians are very methodical

139

00:26:53,220 --> 00:26:51,100

moving forward kind of step by step and

140

00:26:55,560 --> 00:26:53,230

you know even as they prepare the rocket

141

00:26:57,450 --> 00:26:55,570

today and they do the unbolting and they

142

00:26:59,610 --> 00:26:57,460

do the hydraulic lifts and they do the

143

00:27:01,919 --> 00:26:59,620

activities they're pretty pretty

144

00:27:03,659 --> 00:27:01,929

standard pretty step by step just kind

145

00:27:07,200 --> 00:27:03,669

of moving forward making steady progress

146

00:27:09,390 --> 00:27:07,210

Mike Fossum and his crew on orbit had a

147

00:27:11,330 --> 00:27:09,400

slightly different from in Oakland past

148

00:27:13,730 --> 00:27:11,340

three months and they had bargained for

149

00:27:15,590 --> 00:27:13,740

dan burbank a slightly shorter

150

00:27:18,200 --> 00:27:15,600

now for he and his crewmates coming up

151

00:27:21,980 --> 00:27:18,210

how critical and difficult Willis period

152

00:27:23,570 --> 00:27:21,990

and quick transition from one again that

153

00:27:25,250 --> 00:27:23,580

the things that you don't get to see is

154

00:27:26,840 --> 00:27:25,260

how much preparation went into this

155

00:27:28,490 --> 00:27:26,850

handover period you know there's about

156

00:27:30,200 --> 00:27:28,500

four days when they'll actually get a

157

00:27:31,850 --> 00:27:30,210

chance to hand over from one crew to the

158

00:27:33,919 --> 00:27:31,860

next but they've done a lot of

159

00:27:36,110 --> 00:27:33,929

preparation on orbit they you know Mike

160

00:27:37,880 --> 00:27:36,120

Fossum downlink some high definition

161

00:27:40,010 --> 00:27:37,890

video to the crew so they could actually

162

00:27:42,049 --> 00:27:40,020

see what it's going to be like to be on

163

00:27:43,160 --> 00:27:42,059

board space station they they showed

164

00:27:44,630 --> 00:27:43,170

them some things that they're going to

165

00:27:46,580 --> 00:27:44,640

have to do in terms of maintenance to

166

00:27:47,660 --> 00:27:46,590

get prepared so where the normal

167

00:27:49,370 --> 00:27:47,670

handover would have been more

168

00:27:51,710 --> 00:27:49,380

face-to-face they actually did some

169

00:27:53,360 --> 00:27:51,720

remotely by planning ahead and working

170

00:27:55,940 --> 00:27:53,370

with the Mission Operations seem to be

171

00:27:57,980 --> 00:27:55,950

prepared so you know it looks easy when

172

00:28:00,290 --> 00:27:57,990

we see it from the outside and see it

173

00:28:02,270 --> 00:28:00,300

get executed but if you look behind the

174

00:28:03,890 --> 00:28:02,280

scenes and you see all the preparation

175

00:28:05,750 --> 00:28:03,900

and the thought that went into this to

176

00:28:07,340 --> 00:28:05,760

make it work that smooth that's a

177

00:28:09,350 --> 00:28:07,350

testimony to what we're really doing to

178

00:28:12,049 --> 00:28:09,360

get prepared so this extra preparation

179

00:28:13,640 --> 00:28:12,059

they did the extra crew conferences the

180

00:28:16,220 --> 00:28:13,650

extra talking back and forth have been

181

00:28:18,560 --> 00:28:16,230

tremendously helpful and should set us

182

00:28:26,530 --> 00:28:18,570

well to be ready for this pretty short

183

00:28:33,070 --> 00:28:29,410

spaceflight as the year ends into a new

184

00:28:36,610 --> 00:28:33,080

year here between utilization the advent

185

00:28:38,770 --> 00:28:36,620

of commercial vehicles standing in the

186

00:28:40,930 --> 00:28:38,780

wings basically ready to come online to

187

00:28:42,760 --> 00:28:40,940

service the station how do you view this

188

00:28:46,060 --> 00:28:42,770

transitional period away from the

189

00:28:47,830 --> 00:28:46,070

shuttle into how the future again we've

190

00:28:49,870 --> 00:28:47,840

done a lot of preparation to get ready

191

00:28:52,180 --> 00:28:49,880

for this period to transition away from

192

00:28:54,940 --> 00:28:52,190

shuttle into the into the next period of

193

00:28:58,210 --> 00:28:54,950

commercial cargo and and I think again

194

00:29:00,100 --> 00:28:58,220

we're prepared you know we you know we

195

00:29:02,350 --> 00:29:00,110

may get surprised but but we're ready to

196

00:29:03,820 --> 00:29:02,360

move forward there's also a tremendous

197

00:29:05,680 --> 00:29:03,830

amount of research going on onboard

198

00:29:07,600 --> 00:29:05,690

space station you know every day I look

199

00:29:09,370 --> 00:29:07,610

at the status reports and there's

200

00:29:11,140 --> 00:29:09,380

probably five or six scientific

201
00:29:13,240 --> 00:29:11,150
investigations being done every day on

202
00:29:14,890 --> 00:29:13,250
board space station so this period of

203
00:29:16,900 --> 00:29:14,900
time with the three crew they've done a

204
00:29:19,330 --> 00:29:16,910
tremendous job of actually doing some

205
00:29:21,220 --> 00:29:19,340
really quality research you know some of

206
00:29:23,500 --> 00:29:21,230
the combustion experiments that Mike

207
00:29:25,750 --> 00:29:23,510
Fossum have been looking at yielded some

208
00:29:28,410 --> 00:29:25,760
really amazing results we see some

209
00:29:32,020 --> 00:29:28,420
things with we're actually burning some

210
00:29:34,409 --> 00:29:32,030
heptane propellant in space we're

211
00:29:37,139 --> 00:29:34,419
actually see how that performs and

212
00:29:39,509 --> 00:29:37,149
the microgravity period of space with no

213
00:29:41,070 --> 00:29:39,519

convection and it's amazing the

214

00:29:43,680 --> 00:29:41,080

researchers are very intrigued by the

215

00:29:45,239 --> 00:29:43,690

results or see it so I think that the

216

00:29:47,190 --> 00:29:45,249

thing that most folks don't get a chance

217

00:29:48,930 --> 00:29:47,200

to see is how much real research and

218

00:29:50,729 --> 00:29:48,940

scientific investigations are getting

219

00:29:52,560 --> 00:29:50,739

done during this period and it's a real

220

00:29:54,779 --> 00:29:52,570

tribute to Mike and the crew on orbit

221

00:29:57,450 --> 00:29:54,789

that they were able to do this with a

222

00:29:59,249 --> 00:29:57,460

pretty reduced crew size at a very

223

00:30:01,799 --> 00:29:59,259

different schedule than a a plan but

224

00:30:03,359 --> 00:30:01,809

again by being adaptable being flexible

225

00:30:05,940 --> 00:30:03,369

and being prepared they were able to

226

00:30:08,669 --> 00:30:05,950

really make it look very smooth finally

227

00:30:14,740 --> 00:30:08,679

how complex will this time frame in the

228

00:30:19,730 --> 00:30:17,900

again overall a pretty tiny amick period

229

00:30:21,680 --> 00:30:19,740

in terms of launches and vehicles coming

230

00:30:23,780 --> 00:30:21,690

up you know we have the automated

231

00:30:26,990 --> 00:30:23,790

Transfer Vehicle scheduled for next

232

00:30:29,330 --> 00:30:27,000

March launch we have the commercial

233

00:30:32,930 --> 00:30:29,340

cargo guys coming online pretty soon

234

00:30:34,430 --> 00:30:32,940

just a very very busy period so again I

235

00:30:36,800 --> 00:30:34,440

think the thing we learn is to be

236

00:30:39,470 --> 00:30:36,810

prepared to be flexible to be agile to

237

00:30:41,180 --> 00:30:39,480

be ready to change in his life place of

238

00:30:43,100 --> 00:30:41,190

slightly different scenario than you

239

00:30:44,780 --> 00:30:43,110

thought or things don't work exactly

240

00:30:46,670 --> 00:30:44,790

right if you've got that right mental

241

00:30:48,440 --> 00:30:46,680

attitude and you've been prepared you're

242

00:30:50,090 --> 00:30:48,450

ready to adapt it looks seamless it

243

00:30:51,890 --> 00:30:50,100

looks like you're ready and nothing

244

00:30:53,930 --> 00:30:51,900

really happened but in reality it's a

245

00:30:55,730 --> 00:30:53,940

it's a tribute to the preparation and

246

00:30:57,440 --> 00:30:55,740

the thought that goes into this and and

247

00:30:59,150 --> 00:30:57,450

again I can't say enough about the

248

00:31:00,590 --> 00:30:59,160

Russian preparation for this launch if

249

00:31:02,180 --> 00:31:00,600

they've done a great job of being

250

00:31:04,550 --> 00:31:02,190

prepared they looked at everything

251

00:31:06,560 --> 00:31:04,560

thoroughly they're ready to go into this

252

00:31:08,420 --> 00:31:06,570

period it's an exciting time watching

253

00:31:10,790 --> 00:31:08,430

this transition and start to see this