



1
00:00:06,640 --> 00:00:17,370

this way for me

2
00:00:51,110 --> 00:00:23,470

[Music]

3
00:00:55,430 --> 00:00:52,950

uh fresh food through your commercial

4
00:00:57,990 --> 00:00:55,440

vehicles um what vicky has told me the

5
00:01:00,310 --> 00:00:58,000

plan is for you uh your utensils will be

6
00:01:07,350 --> 00:01:00,320

pre-positioned with your crew specific

7
00:01:07,360 --> 00:01:11,030

apples and

8
00:01:14,950 --> 00:01:12,230

not representative of spices it looks

9
00:01:18,710 --> 00:01:14,960

like on the orbit okay so this is this

10
00:01:21,749 --> 00:01:18,720

is the galley rack which is a node 1.4

11
00:01:23,429 --> 00:01:21,759

sorry if you can see that dispense um

12
00:01:27,010 --> 00:01:23,439

and then select the amount of water you

13
00:01:27,020 --> 00:01:37,429

[Music]

14

00:01:37,439 --> 00:01:50,710

yeah water it down a little bit

15

00:01:54,789 --> 00:01:52,950

definitely going in because once the

16

00:01:57,270 --> 00:01:54,799

dispense is complete you have to cycle

17

00:03:58,470 --> 00:01:57,280

that switch to start a new dispenser oh

18

00:03:58,480 --> 00:04:10,949

take a camera

19

00:04:22,469 --> 00:04:12,789

hi guys how you doing

20

00:04:22,479 --> 00:04:41,110

i'm hearing

21

00:05:01,270 --> 00:04:42,870

how's this

22

00:05:23,350 --> 00:05:03,270

for some reason my my questions are

23

00:05:23,360 --> 00:05:29,510

all right can everyone hear me okay

24

00:05:33,990 --> 00:05:30,870

great okay

25

00:05:35,990 --> 00:05:34,000

um so um as the first group of like a

26
00:05:39,670 --> 00:05:36,000
commercial flight like this what will be

27
00:05:41,350 --> 00:05:39,680
your mission generally

28
00:05:42,870 --> 00:05:41,360
i think for both of the vehicles the the

29
00:05:44,950 --> 00:05:42,880
missions that we have in front of us are

30
00:05:47,430 --> 00:05:44,960
kind of shake out cruises to make sure

31
00:05:49,590 --> 00:05:47,440
that these new capsules can can execute

32
00:05:56,629 --> 00:05:49,600
the mission of rotating crews to and

33
00:05:56,639 --> 00:06:01,909
so uh what's training like for you guys

34
00:06:04,230 --> 00:06:03,430
well we're just starting the training

35
00:06:05,909 --> 00:06:04,240
now

36
00:06:06,790 --> 00:06:05,919
and starting to work on it and so one of

37
00:06:09,350 --> 00:06:06,800
the things that's going to be different

38
00:06:11,510 --> 00:06:09,360

about this than a different test flight

39

00:06:13,189 --> 00:06:11,520

is on a test flight as opposed to a

40

00:06:14,790 --> 00:06:13,199

regular flight is you you actually kind

41

00:06:16,550 --> 00:06:14,800

of go back and forth to get the

42

00:06:18,469 --> 00:06:16,560

procedures the you know we're going to

43

00:06:19,830 --> 00:06:18,479

work with the training team to to work

44

00:06:25,270 --> 00:06:19,840

on the actual things that we're going to

45

00:06:28,950 --> 00:06:27,029

so what are you guys looking forward to

46

00:06:32,550 --> 00:06:28,960

the most when you take your first trip

47

00:06:35,270 --> 00:06:34,309

well this will be my first time to space

48

00:06:37,590 --> 00:06:35,280

ever so

49

00:06:38,870 --> 00:06:37,600

i'm pretty excited for that opportunity

50

00:06:41,189 --> 00:06:38,880

i'm really looking forward to the

51
00:06:43,350 --> 00:06:41,199
training and then certainly when we we

52
00:06:50,390 --> 00:06:43,360
launch that day from the cape it's going

53
00:06:52,870 --> 00:06:51,430
are you

54
00:06:56,309 --> 00:06:52,880
encouraged by the idea of more

55
00:06:58,309 --> 00:06:56,319
commercial flights now and in the future

56
00:07:00,830 --> 00:06:58,319
and it's instead of it just being always

57
00:07:04,950 --> 00:07:00,840
nasa flights

58
00:07:07,430 --> 00:07:04,960
uh well yes uh so the way that i'd like

59
00:07:09,350 --> 00:07:07,440
to see the business evolve is uh that

60
00:07:10,950 --> 00:07:09,360
right now we provide service to nasa

61
00:07:13,510 --> 00:07:10,960
astronauts back and forth to low earth

62
00:07:15,189 --> 00:07:13,520
orbit and then hopefully if we build

63
00:07:17,670 --> 00:07:15,199

this capability will they come will

64

00:07:19,909 --> 00:07:17,680

others come and want either to for

65

00:07:22,070 --> 00:07:19,919

vacation purposes or business purposes

66

00:07:24,230 --> 00:07:22,080

or perhaps other countries that cannot

67

00:07:26,870 --> 00:07:24,240

afford a space program of their own can

68

00:07:31,830 --> 00:07:26,880

get into what is has formerly been a

69

00:07:36,469 --> 00:07:33,749

why do you think space exploration is

70

00:07:38,950 --> 00:07:36,479

important to begin with

71

00:07:41,110 --> 00:07:38,960

well i think you know we've we've got a

72

00:07:43,749 --> 00:07:41,120

history as humans of exploration and i

73

00:07:45,430 --> 00:07:43,759

think the stop now uh doesn't make a lot

74

00:07:47,909 --> 00:07:45,440

of sense to me personally i think we all

75

00:07:50,309 --> 00:07:47,919

got into this business to explore and

76

00:07:52,390 --> 00:07:50,319

the next logical step is low earth orbit

77

00:07:54,309 --> 00:07:52,400

and then on to the moon so i think

78

00:07:56,550 --> 00:07:54,319

we we just are a small part of it right

79

00:07:57,430 --> 00:07:56,560

now but i think that's what our intent

80

00:08:01,990 --> 00:07:57,440

is

81

00:08:05,350 --> 00:08:03,430

and then how how would you say that

82

00:08:07,350 --> 00:08:05,360

helps us here on earth

83

00:08:10,230 --> 00:08:07,360

well you get a whole bunch of different

84

00:08:11,950 --> 00:08:10,240

uh technological developments you know

85

00:08:13,830 --> 00:08:11,960

the space age you know we've seen

86

00:08:16,070 --> 00:08:13,840

microprocessors we've seen a lot of

87

00:08:17,510 --> 00:08:16,080

things that that translate back the gps

88

00:08:20,309 --> 00:08:17,520

constellation

89

00:08:22,710 --> 00:08:20,319

uh a number of things we see constantly

90

00:08:24,070 --> 00:08:22,720

uh that we benefit from our daily lives

91

00:08:29,350 --> 00:08:24,080

that have been developed because of the

92

00:08:33,029 --> 00:08:31,830

so for for each of you or who would like

93

00:08:34,550 --> 00:08:33,039

to answer

94

00:08:39,509 --> 00:08:34,560

what would you say is the most

95

00:08:43,909 --> 00:08:42,230

i think for me the the most intriguing

96

00:08:46,230 --> 00:08:43,919

thing about the universe is just how

97

00:08:47,990 --> 00:08:46,240

much variety is out there and so i think

98

00:08:50,150 --> 00:08:48,000

we're in a phase now where we're just

99

00:08:53,110 --> 00:08:50,160

discovering what other planets might be

100

00:08:55,350 --> 00:08:53,120

like throughout our galaxy and then what

101
00:08:56,630 --> 00:08:55,360
might be out further and so really it's

102
00:08:58,630 --> 00:08:56,640
that diversity that's the most

103
00:09:00,630 --> 00:08:58,640
intriguing thing to me we do our best to

104
00:09:02,470 --> 00:09:00,640
predict but uh sometimes we find things

105
00:09:11,350 --> 00:09:02,480
that surprise us and that's why that's

106
00:09:14,949 --> 00:09:12,790
anyone else

107
00:09:17,269 --> 00:09:14,959
well to me one of the big things about

108
00:09:19,110 --> 00:09:17,279
space exploration is it really you kind

109
00:09:20,790 --> 00:09:19,120
of get an appreciation we we know quite

110
00:09:22,550 --> 00:09:20,800
a bit about the earth there's still a

111
00:09:25,110 --> 00:09:22,560
lot more to learn but then when you look

112
00:09:28,070 --> 00:09:25,120
out to the space we have so much more to

113
00:09:29,990 --> 00:09:28,080

learn you know we know barely just very

114

00:09:31,750 --> 00:09:30,000

little about uh

115

00:09:33,910 --> 00:09:31,760

where we live you know going out to the

116

00:09:36,230 --> 00:09:33,920

universe and and looking out beyond you

117

00:09:38,150 --> 00:09:36,240

know you've got galaxies with stars and

118

00:09:39,590 --> 00:09:38,160

then you continue to go on the universe

119

00:09:43,590 --> 00:09:39,600

is massive so there's a lot left to

120

00:09:49,269 --> 00:09:45,430

just a few

121

00:09:51,430 --> 00:09:49,279

you know

122

00:09:53,430 --> 00:09:51,440

mars we had sort of

123

00:09:55,509 --> 00:09:53,440

not found the elusive evidence of water

124

00:09:57,670 --> 00:09:55,519

we had suspected it was there but

125

00:09:59,509 --> 00:09:57,680

um just a few days ago i believe we had

126

00:10:01,910 --> 00:09:59,519

some reasonably conclusive evidence that

127

00:10:03,190 --> 00:10:01,920

you know there is subterranean uh water

128

00:10:04,870 --> 00:10:03,200

out there that we can detect through

129

00:10:07,110 --> 00:10:04,880

ground penetrating radar so what's

130

00:10:08,069 --> 00:10:07,120

interesting is is that the story always

131

00:10:09,990 --> 00:10:08,079

changes

132

00:10:12,150 --> 00:10:10,000

um you know the moon we used to think

133

00:10:14,310 --> 00:10:12,160

was was pretty lunar that was very

134

00:10:17,590 --> 00:10:14,320

desolate and uh and now we know that

135

00:10:19,110 --> 00:10:17,600

there's water uh ice mixed in or frozen

136

00:10:21,110 --> 00:10:19,120

ice mixed in with the lunar regolith at

137

00:10:23,350 --> 00:10:21,120

the north and south poles so all these

138

00:10:25,750 --> 00:10:23,360

life-giving ingredients that we used to

139

00:10:30,829 --> 00:10:25,760

think we owned most of are it turns out

140

00:10:35,350 --> 00:10:32,949

system all right and just one last

141

00:10:38,949 --> 00:10:35,360

question um do you think there's other

142

00:10:39,950 --> 00:10:38,959

life out there on other planets

143

00:10:42,230 --> 00:10:39,960

i do

144

00:10:43,750 --> 00:10:42,240

[Laughter]

145

00:10:45,190 --> 00:10:43,760

you know i think that's we're not sure

146

00:10:47,269 --> 00:10:45,200

and that's one of the questions that

147

00:10:48,790 --> 00:10:47,279

we're certainly trying to answer i think

148

00:10:50,630 --> 00:10:48,800

you know either conclusion you come to

149

00:10:52,310 --> 00:10:50,640

whether we're the only you know species

150

00:10:54,310 --> 00:10:52,320

in the universe that's incredible that

151
00:10:55,590 --> 00:10:54,320
would be amazing but on the other side

152
00:10:57,430 --> 00:10:55,600
if there's some other life form out

153
00:11:03,110 --> 00:10:57,440
there that's equally as incredible and

154
00:11:03,120 --> 00:12:18,710
all right thank you very much guys

155
00:12:21,750 --> 00:12:20,389
constitutional shareholders at the base

156
00:12:23,350 --> 00:12:21,760
of their shareholdings and they don't

157
00:12:25,030 --> 00:12:23,360
show up for the shareholder meetings and

158
00:12:26,710 --> 00:12:25,040
there's usually one or two angry people

159
00:12:29,030 --> 00:12:26,720
who yell at the board but wait one or

160
00:12:30,870 --> 00:12:29,040
two wait wait wait hi everyone this is

161
00:12:32,550 --> 00:12:30,880
cnbc just wanted to make sure you can

162
00:12:33,430 --> 00:12:32,560
hear us all okay

163
00:12:38,629 --> 00:12:33,440

yes

164

00:12:40,230 --> 00:12:38,639

the property thank you hey in the

165

00:12:41,430 --> 00:12:40,240

ownership and the management of the

166

00:12:43,269 --> 00:12:41,440

company there was a sort of an

167

00:12:45,750 --> 00:12:43,279

assumption and suddenly that's become

168

00:12:47,750 --> 00:12:45,760

bifurcated and maybe obviously it's

169

00:12:49,110 --> 00:12:47,760

previous stocks it's become a major

170

00:12:50,949 --> 00:12:49,120

issue but don't you think that's an

171

00:12:53,590 --> 00:12:50,959

issue when i walk by into the company

172

00:12:55,990 --> 00:12:53,600

i'm not just buying an upstream profits

173

00:12:57,509 --> 00:12:56,000

i'd like to have some say hi guys this

174

00:13:00,389 --> 00:12:57,519

is the producer in the control room

175

00:13:02,230 --> 00:13:00,399

thanks so much for joining us today

176

00:13:04,629 --> 00:13:02,240

you're welcome you're welcome

177

00:13:06,870 --> 00:13:04,639

well in theory you are correct bob in

178

00:13:08,629 --> 00:13:06,880

reality very little gets done right so

179

00:13:10,629 --> 00:13:08,639

um just so you know the people will be

180

00:13:11,670 --> 00:13:10,639

doing the interview we've got morgan

181

00:13:14,949 --> 00:13:11,680

brennan

182

00:13:17,829 --> 00:13:14,959

bob pizzani and sarah eisen if you guys

183

00:13:20,069 --> 00:13:17,839

could just uh go down the line

184

00:13:22,790 --> 00:13:20,079

and tell me each pronounce each of your

185

00:13:24,230 --> 00:13:22,800

names for me that would be great

186

00:13:25,670 --> 00:13:24,240

doug hurley

187

00:13:29,670 --> 00:13:25,680

bob bankin

188

00:13:31,590 --> 00:13:29,680

eric bo nicole mann chris ferguson

189

00:13:32,829 --> 00:13:31,600

hedge fund elliott management hates the

190

00:13:33,910 --> 00:13:32,839

word

191

00:13:36,230 --> 00:13:33,920

secretive great

192

00:13:38,710 --> 00:13:36,240

perfect thank you better it said this

193

00:13:41,110 --> 00:13:38,720

bothersome word is usually appended like

194

00:13:43,110 --> 00:13:41,120

some chrome automobile ornament to the

195

00:13:44,870 --> 00:13:43,120

words hedge fund at the end of the

196

00:13:48,069 --> 00:13:44,880

letter elliott included other words it

197

00:13:51,590 --> 00:13:48,079

thinks are overused including correction

198

00:13:53,590 --> 00:13:51,600

bubble bear market and alpha

199

00:13:55,990 --> 00:13:53,600

okay it doesn't like the word secret of

200

00:13:57,990 --> 00:13:56,000

what that is a confidential violence

201
00:13:59,509 --> 00:13:58,000
elliott from elliot this is from elliot

202
00:14:02,389 --> 00:13:59,519
dude people who

203
00:14:04,629 --> 00:14:02,399
who distributed his confidential

204
00:14:06,949 --> 00:14:04,639
investor letter years before you know i

205
00:14:08,949 --> 00:14:06,959
mean he probably is relative to somebody

206
00:14:10,629 --> 00:14:08,959
like bill gross bill gross shares his

207
00:14:12,710 --> 00:14:10,639
thoughts with everybody as to what's

208
00:14:14,550 --> 00:14:12,720
going on jeremy grantham shares his

209
00:14:15,990 --> 00:14:14,560
thoughts with everybody

210
00:14:17,670 --> 00:14:16,000
mr singer doesn't like to share his

211
00:14:19,189 --> 00:14:17,680
thoughts with everybody that's why he

212
00:14:21,829 --> 00:14:19,199
gets called secret

213
00:14:23,990 --> 00:14:21,839

starbucks is the latest retailer to get

214

00:14:25,829 --> 00:14:24,000

in on the crypto craze the coffee giant

215

00:14:28,069 --> 00:14:25,839

is working with microsoft and global

216

00:14:30,230 --> 00:14:28,079

exchange on a new platform that will

217

00:14:31,990 --> 00:14:30,240

allow customers to pay for items with

218

00:14:33,910 --> 00:14:32,000

cryptocurrencies starbucks is working on

219

00:14:35,750 --> 00:14:33,920

launching the new company

220

00:14:38,069 --> 00:14:35,760

by november why shouldn't we be able to

221

00:14:40,629 --> 00:14:38,079

pay for our frappuccinos with bitcoin

222

00:14:42,550 --> 00:14:40,639

because it's a bad currency it's not it

223

00:14:44,230 --> 00:14:42,560

doesn't fulfill the function that

224

00:14:46,150 --> 00:14:44,240

currency is supposed to use by the way

225

00:14:47,750 --> 00:14:46,160

when i first saw the story i hate to say

226

00:14:49,189 --> 00:14:47,760

it i thought this was fake news this is

227

00:14:51,189 --> 00:14:49,199

the kind of story that's put out by

228

00:14:52,470 --> 00:14:51,199

people who are long bitcoin who want to

229

00:14:54,710 --> 00:14:52,480

get it get a story about this is the

230

00:14:57,030 --> 00:14:54,720

only company

231

00:14:59,590 --> 00:14:57,040

i'm not what they've seen the data has

232

00:15:02,470 --> 00:14:59,600

shown that cryptocurrencies and bitcoin

233

00:15:04,230 --> 00:15:02,480

are used less and less for transactions

234

00:15:06,310 --> 00:15:04,240

now the case stand by we're coming to

235

00:15:08,550 --> 00:15:06,320

you next agrees with you i mean remember

236

00:15:11,269 --> 00:15:08,560

the i understand the ceo here is very

237

00:15:13,110 --> 00:15:11,279

close to the whole cryptocurrency thing

238

00:15:16,230 --> 00:15:13,120

they paid very close attention to what's

239

00:15:19,189 --> 00:15:16,240

going on uh they have a major investment

240

00:15:21,189 --> 00:15:19,199

in one of the exchanges

241

00:15:22,870 --> 00:15:21,199

which may be one of the big ones going

242

00:15:25,269 --> 00:15:22,880

forward and by the way it's not

243

00:15:28,069 --> 00:15:25,279

necessarily i i think that you're right

244

00:15:30,389 --> 00:15:28,079

on the observation that as a as it as a

245

00:15:32,870 --> 00:15:30,399

medium to pay for things bitcoin has

246

00:15:35,189 --> 00:15:32,880

been a failure as a store of value

247

00:15:37,430 --> 00:15:35,199

though well some people are playing it

248

00:15:39,749 --> 00:15:37,440

as a way to play the blockchain game

249

00:15:41,350 --> 00:15:39,759

that's unfortunate but maybe it's not

250

00:15:43,030 --> 00:15:41,360

our business maybe if they think there's

251

00:15:44,230 --> 00:15:43,040

a future there to do it people want to

252

00:15:46,150 --> 00:15:44,240

do it i think it's crazy to pay for

253

00:15:47,749 --> 00:15:46,160

bitcoin with pizza but if they want to

254

00:15:49,350 --> 00:15:47,759

do it i think it's fine i think it's a

255

00:15:51,030 --> 00:15:49,360

very important move towards making it

256

00:15:53,910 --> 00:15:51,040

more legitimate to a certain extent and

257

00:15:56,069 --> 00:15:53,920

with the nyse i mean ice behind that

258

00:15:58,069 --> 00:15:56,079

that's not a joke anymore i think that's

259

00:15:59,910 --> 00:15:58,079

a very serious move but i did think it

260

00:16:01,590 --> 00:15:59,920

was fake news when i first saw the story

261

00:16:03,110 --> 00:16:01,600

yeah you know they put they put these

262

00:16:04,790 --> 00:16:03,120

stories out there all the time to choose

263

00:16:07,189 --> 00:16:04,800

the uh that's why we have you to filter

264

00:16:09,269 --> 00:16:07,199

fast let's move on to space because nasa

265

00:16:11,910 --> 00:16:09,279

today announcing astronauts who will

266

00:16:14,069 --> 00:16:11,920

take the first trips into space from u.s

267

00:16:15,990 --> 00:16:14,079

soil since a space shuttle flight seven

268

00:16:18,069 --> 00:16:16,000

years ago under nasa's multi-billion

269

00:16:20,470 --> 00:16:18,079

dollar commercial and crew program the

270

00:16:23,749 --> 00:16:20,480

agency is scheduled boeing starliner and

271

00:16:26,310 --> 00:16:23,759

spacex's crew dragon vehicles for launch

272

00:16:27,910 --> 00:16:26,320

that starts in 2019. our morgan brennan

273

00:16:30,949 --> 00:16:27,920

now joins us with

274

00:16:33,590 --> 00:16:30,959

the team team nasa selected to man these

275

00:16:36,550 --> 00:16:33,600

missions we welcome christopher ferguson

276

00:16:38,790 --> 00:16:36,560

nicole mann and eric bowe for boeing

277

00:16:41,189 --> 00:16:38,800

robert bankin and douglas hurley for

278

00:16:42,949 --> 00:16:41,199

spacex morgan take it away yeah just for

279

00:16:44,710 --> 00:16:42,959

a little bit of context sarah i just

280

00:16:46,310 --> 00:16:44,720

want to note as you mentioned

281

00:16:48,310 --> 00:16:46,320

the us does not currently have the

282

00:16:49,910 --> 00:16:48,320

capability to send folks into space

283

00:16:52,310 --> 00:16:49,920

right now we rely on the russians to do

284

00:16:54,069 --> 00:16:52,320

this so this program and the astronauts

285

00:16:56,710 --> 00:16:54,079

we're now sitting down to speak to

286

00:16:58,389 --> 00:16:56,720

represent the first time we're able to

287

00:17:00,550 --> 00:16:58,399

do this starting next year that's when

288

00:17:02,710 --> 00:17:00,560

the target dates are

289

00:17:05,189 --> 00:17:02,720

since 2011 so thank you so much for

290

00:17:08,230 --> 00:17:05,199

joining us today and congratulations

291

00:17:10,150 --> 00:17:08,240

on the news that you will be the first

292

00:17:11,990 --> 00:17:10,160

i want to start with you chris ferguson

293

00:17:14,549 --> 00:17:12,000

because not only were you the last space

294

00:17:16,150 --> 00:17:14,559

shuttle commander commander back in 2011

295

00:17:18,390 --> 00:17:16,160

you work for boeing

296

00:17:21,429 --> 00:17:18,400

you've been very closely involved in

297

00:17:23,189 --> 00:17:21,439

developing boeing starliner spacecraft

298

00:17:24,390 --> 00:17:23,199

for their part of the program did you

299

00:17:26,710 --> 00:17:24,400

ever think

300

00:17:28,789 --> 00:17:26,720

that you'd be going back to space on a

301
00:17:31,110 --> 00:17:28,799
commercial mission as the first ever

302
00:17:32,470 --> 00:17:31,120
private citizen hey thanks morgan

303
00:17:34,230 --> 00:17:32,480
well i'll tell you when we finished up

304
00:17:36,390 --> 00:17:34,240
the shuttle program about seven years

305
00:17:38,549 --> 00:17:36,400
ago i thought my flying and space days

306
00:17:39,830 --> 00:17:38,559
were certainly over of course

307
00:17:42,070 --> 00:17:39,840
boeing brought me into their fold

308
00:17:43,270 --> 00:17:42,080
shortly after that and uh and interested

309
00:17:45,990 --> 00:17:43,280
me in

310
00:17:47,990 --> 00:17:46,000
developing our our next way to low earth

311
00:17:50,150 --> 00:17:48,000
orbit so ever since then i've been a

312
00:17:52,310 --> 00:17:50,160
part of the team and now it's come full

313
00:17:53,909 --> 00:17:52,320

circle and have an opportunity to fly it

314

00:17:58,630 --> 00:17:53,919

really excited about it brandon thank

315

00:18:01,430 --> 00:18:00,230

and i i think chris one of the key

316

00:18:02,710 --> 00:18:01,440

things here is that in the past the

317

00:18:05,270 --> 00:18:02,720

rockets have always been developed and

318

00:18:07,830 --> 00:18:05,280

operated by nasa owned by nasa now it's

319

00:18:09,909 --> 00:18:07,840

being done by boeing and spacex it's the

320

00:18:12,070 --> 00:18:09,919

private sector it's a very interesting

321

00:18:13,190 --> 00:18:12,080

twist uh and i believe it's important

322

00:18:15,590 --> 00:18:13,200

that uh

323

00:18:17,510 --> 00:18:15,600

that we convey that

324

00:18:19,830 --> 00:18:17,520

we're now providing a commercial service

325

00:18:22,710 --> 00:18:19,840

to low earth orbit that of course uh our

326

00:18:24,710 --> 00:18:22,720

flagship customer is nasa uh but that if

327

00:18:26,390 --> 00:18:24,720

we build it will they come where uh will

328

00:18:28,150 --> 00:18:26,400

other customers come from other places

329

00:18:29,590 --> 00:18:28,160

perhaps space tourism perhaps other

330

00:18:35,909 --> 00:18:29,600

countries that are interested in space

331

00:18:41,029 --> 00:18:38,710

robert and doug you're going to be the

332

00:18:42,630 --> 00:18:41,039

crew dragon test flight astronauts for

333

00:18:47,350 --> 00:18:42,640

spacex

334

00:18:49,909 --> 00:18:47,360

records milestones but in terms of u.s

335

00:18:51,350 --> 00:18:49,919

activity and space it's still relatively

336

00:18:52,789 --> 00:18:51,360

new to the game what's it like to work

337

00:18:54,710 --> 00:18:52,799

with this company

338

00:18:57,029 --> 00:18:54,720

uh it's it's exciting

339

00:18:57,830 --> 00:18:57,039

it's a fairly young workforce

340

00:18:59,830 --> 00:18:57,840

so

341

00:19:01,750 --> 00:18:59,840

bob and i are two of the older folks out

342

00:19:03,909 --> 00:19:01,760

there when we go out to work with them

343

00:19:05,590 --> 00:19:03,919

but there's a lot of energy out there a

344

00:19:08,470 --> 00:19:05,600

lot of smart people

345

00:19:10,630 --> 00:19:08,480

that are working very hard to get

346

00:19:12,390 --> 00:19:10,640

the human space flight side of things

347

00:19:15,510 --> 00:19:12,400

into orbit you know they've been working

348

00:19:16,950 --> 00:19:15,520

with nasa uh and they provide uh cargo

349

00:19:18,310 --> 00:19:16,960

services for the international space

350

00:19:20,390 --> 00:19:18,320

station and they've been doing that for

351

00:19:22,230 --> 00:19:20,400

the last several years and this is kind

352

00:19:27,270 --> 00:19:22,240

of a next logical step for them as a

353

00:19:31,029 --> 00:19:28,870

uh bob fazani here i'll just throw it

354

00:19:33,029 --> 00:19:31,039

out to any uh any one of you gentlemen

355

00:19:35,190 --> 00:19:33,039

first thank you for making uh space

356

00:19:37,990 --> 00:19:35,200

flights exciting as a boy who grew up in

357

00:19:39,909 --> 00:19:38,000

the 60s i am so happy uh that this is in

358

00:19:40,950 --> 00:19:39,919

the news again you're all making us very

359

00:19:43,110 --> 00:19:40,960

proud

360

00:19:45,909 --> 00:19:43,120

we make a big thing about you fellas as

361

00:19:48,150 --> 00:19:45,919

a commercial crew program i'm wondering

362

00:19:49,909 --> 00:19:48,160

if there's a difference between all of

363

00:19:51,430 --> 00:19:49,919

and women as well if there's a

364

00:19:53,909 --> 00:19:51,440

difference between the commercial

365

00:19:55,750 --> 00:19:53,919

aspects of this and the old

366

00:19:57,909 --> 00:19:55,760

the old nassau program was your training

367

00:19:59,990 --> 00:19:57,919

different in any way how is commercial

368

00:20:02,149 --> 00:20:00,000

different from what we were doing in the

369

00:20:04,230 --> 00:20:02,159

70s and 80s and 90s with an

370

00:20:05,909 --> 00:20:04,240

program

371

00:20:07,590 --> 00:20:05,919

i think i would say that uh kind of the

372

00:20:09,909 --> 00:20:07,600

big difference that we've seen bob and

373

00:20:11,510 --> 00:20:09,919

great name by the way uh that we've seen

374

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

is that we really are leveraging

375

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

technology that's used for our kind of

376

00:20:17,750 --> 00:20:15,120

commercial applications the launch of

377

00:20:20,390 --> 00:20:17,760

satellites and spacex's case making some

378

00:20:22,230 --> 00:20:20,400

minor modifications to hopefully improve

379

00:20:23,909 --> 00:20:22,240

the reliability of their vehicle and

380

00:20:25,750 --> 00:20:23,919

then that reliable vehicle then they'll

381

00:20:27,830 --> 00:20:25,760

continue to use on the commercial side

382

00:20:29,750 --> 00:20:27,840

and so that's that's the probably the

383

00:20:32,070 --> 00:20:29,760

biggest piece for me is it's not like

384

00:20:34,149 --> 00:20:32,080

the space shuttle or every piece the

385

00:20:36,789 --> 00:20:34,159

external tank the solid rocket boosters

386

00:20:38,950 --> 00:20:36,799

the shuttle itself we're all nasa unique

387

00:20:40,630 --> 00:20:38,960

hardware for our nasa unique mission

388

00:20:42,789 --> 00:20:40,640

we're able to leverage quite a bit of

389

00:20:44,230 --> 00:20:42,799

technology from the commercial sector

390

00:20:45,909 --> 00:20:44,240

and that makes a big difference in terms

391

00:20:47,510 --> 00:20:45,919

of being able to fly often enough to

392

00:20:52,549 --> 00:20:47,520

have confidence in the reliability that

393

00:20:55,669 --> 00:20:54,070

now we're going to put up a picture on

394

00:20:57,590 --> 00:20:55,679

our screen it's going to be of the

395

00:21:00,950 --> 00:20:57,600

american flag that was affixed to the

396

00:21:03,510 --> 00:21:00,960

international space station back in 2011

397

00:21:05,830 --> 00:21:03,520

on that last space shuttle mission that

398

00:21:07,669 --> 00:21:05,840

uh chris i know you were on i think the

399

00:21:09,750 --> 00:21:07,679

whole idea here legend has it that

400

00:21:11,750 --> 00:21:09,760

that's going to be retrieved by the

401
00:21:14,390 --> 00:21:11,760
astronaut that goes up again

402
00:21:16,470 --> 00:21:14,400
in a us-made vehicle which as we know

403
00:21:17,990 --> 00:21:16,480
from this program is expected to be next

404
00:21:19,590 --> 00:21:18,000
year which one of you is going to

405
00:21:21,669 --> 00:21:19,600
capture the flag

406
00:21:23,669 --> 00:21:21,679
that's a great question morgan of course

407
00:21:28,070 --> 00:21:23,679
doug hurley on the other end he and i

408
00:21:30,870 --> 00:21:28,080
flew together on sts 135. so i i suppose

409
00:21:32,710 --> 00:21:30,880
it's a bit of a friendly race um and you

410
00:21:34,549 --> 00:21:32,720
know just as an aside we had the

411
00:21:37,270 --> 00:21:34,559
opportunity just before this uh

412
00:21:38,789 --> 00:21:37,280
broadcast to speak to ricky arnold who

413
00:21:40,310 --> 00:21:38,799

was uh who's the astronaut on the

414

00:21:42,070 --> 00:21:40,320

international space station now who

415

00:21:43,909 --> 00:21:42,080

actually found the flag i think it had

416

00:21:45,909 --> 00:21:43,919

been hiding in a christmas decoration

417

00:21:47,430 --> 00:21:45,919

box somewhere along the line

418

00:21:49,190 --> 00:21:47,440

but hey whoever gets there we're going

419

00:21:54,549 --> 00:21:49,200

to do it safely and we're going to bring

420

00:21:58,070 --> 00:21:55,909

well thank you so much for taking the

421

00:21:59,990 --> 00:21:58,080

time today i want to say to all of you

422

00:22:01,830 --> 00:22:00,000

thank you for your service to this

423

00:22:03,830 --> 00:22:01,840

country and good luck as you train and

424

00:22:05,669 --> 00:22:03,840

get ready for your missions

425

00:22:07,510 --> 00:22:05,679

the new astronauts of the nasa

426
00:22:09,190 --> 00:22:07,520
commercial crew program

427
00:22:10,149 --> 00:22:09,200
an amen to that

428
00:22:12,710 --> 00:22:10,159
thank you

429
00:25:39,590 --> 00:22:12,720
ladies and gentlemen uh

430
00:25:39,600 --> 00:25:45,590
uh

431
00:25:49,909 --> 00:25:47,990
hi this is marcia dennis kennedy center

432
00:25:51,830 --> 00:25:49,919
at the ap can you read me

433
00:25:54,230 --> 00:25:51,840
loud and clear loud and clear marcia

434
00:25:56,390 --> 00:25:54,240
well congratulations um

435
00:25:58,310 --> 00:25:56,400
everyone uh

436
00:26:00,710 --> 00:25:58,320
i don't know who i should start with but

437
00:26:02,310 --> 00:26:00,720
uh this is how do you see this is a day

438
00:26:04,390 --> 00:26:02,320

in terms of the history of the space

439

00:26:06,870 --> 00:26:04,400

flight program um

440

00:26:09,669 --> 00:26:06,880

seems momentous it's a new era things

441

00:26:13,830 --> 00:26:09,679

are now going a new way um sort of put

442

00:26:17,430 --> 00:26:15,510

i think from from our perspective you

443

00:26:18,870 --> 00:26:17,440

know we've been at this for a while and

444

00:26:20,630 --> 00:26:18,880

what's a little bit different right now

445

00:26:21,990 --> 00:26:20,640

is just the amount of interest that kind

446

00:26:23,669 --> 00:26:22,000

of gets uh

447

00:26:25,669 --> 00:26:23,679

kind of generated from an event like

448

00:26:27,110 --> 00:26:25,679

this and so we're really just excited to

449

00:26:29,350 --> 00:26:27,120

be able to share what we've accomplished

450

00:26:31,190 --> 00:26:29,360

so far and let folks know that we really

451
00:26:32,789 --> 00:26:31,200
are getting ready to go off and fly

452
00:26:34,549 --> 00:26:32,799
again from the florida coast i think

453
00:26:35,830 --> 00:26:34,559
that you know for us it's going to feel

454
00:26:38,390 --> 00:26:35,840
about the same because we're going to be

455
00:26:41,830 --> 00:26:38,400
just as busy as we were last week uh

456
00:26:46,390 --> 00:26:43,750
do you get the sense do you get to the

457
00:26:48,070 --> 00:26:46,400
sense that you're almost um going back

458
00:26:49,350 --> 00:26:48,080
to what it must have been

459
00:26:51,750 --> 00:26:49,360
what it must have felt like for the

460
00:26:53,750 --> 00:26:51,760
mercury astronauts

461
00:26:57,590 --> 00:26:53,760
or some of the other early flyers

462
00:27:01,830 --> 00:26:59,750
uh you know i think today the energy

463
00:27:03,430 --> 00:27:01,840

that we felt in the teague auditorium

464

00:27:05,269 --> 00:27:03,440

with everybody there surrounding the

465

00:27:06,789 --> 00:27:05,279

announcement was incredible it's it's

466

00:27:08,390 --> 00:27:06,799

something i've never felt before and i

467

00:27:10,390 --> 00:27:08,400

really think that the country and really

468

00:27:12,230 --> 00:27:10,400

the world is going to be uh behind us

469

00:27:13,590 --> 00:27:12,240

and we're ushering this new era of

470

00:27:16,149 --> 00:27:13,600

american space flight i really think

471

00:27:17,590 --> 00:27:16,159

it's just the beginning of a partnership

472

00:27:19,590 --> 00:27:17,600

with our commercial

473

00:27:21,510 --> 00:27:19,600

industries and then as we look further

474

00:27:23,110 --> 00:27:21,520

beyond low earth orbit

475

00:27:24,630 --> 00:27:23,120

back towards the moon and eventually to

476
00:27:26,870 --> 00:27:24,640
mars

477
00:27:29,350 --> 00:27:26,880
um tell me how did uh i'm just sort of

478
00:27:31,350 --> 00:27:29,360
curious did you guys have any say so in

479
00:27:33,750 --> 00:27:31,360
which capsule which company you got

480
00:27:35,590 --> 00:27:33,760
assigned to or did they pick names out

481
00:27:37,750 --> 00:27:35,600
of a hat how did how did that go down

482
00:27:40,230 --> 00:27:37,760
i'll take that one marcia uh

483
00:27:42,389 --> 00:27:40,240
only because i've worked for boeing i

484
00:27:44,070 --> 00:27:42,399
didn't expect to be assigned to a spacex

485
00:27:45,830 --> 00:27:44,080
vehicle uh but i've been working with

486
00:27:47,830 --> 00:27:45,840
that team for about seven years now ever

487
00:27:49,269 --> 00:27:47,840
since the space shuttle program ended

488
00:27:50,950 --> 00:27:49,279

and this is an interesting time of

489

00:27:53,350 --> 00:27:50,960

course for boeing because uh of course

490

00:27:54,710 --> 00:27:53,360

their capsule is in the mix but uh but

491

00:27:57,110 --> 00:27:54,720

also the you know the first time they're

492

00:27:59,029 --> 00:27:57,120

going to send a boeing astronaut uh

493

00:28:02,230 --> 00:27:59,039

aboard uh you know up to low earth orbit

494

00:28:04,070 --> 00:28:02,240

in the international space station

495

00:28:05,590 --> 00:28:04,080

tell me chris what are you calling yours

496

00:28:07,510 --> 00:28:05,600

i know that in the shuttle days there

497

00:28:09,269 --> 00:28:07,520

were payload specialists are you calling

498

00:28:12,230 --> 00:28:09,279

are you considered a spacecraft

499

00:28:14,870 --> 00:28:12,240

specialist a capsule specialist uh

500

00:28:16,710 --> 00:28:14,880

maybe they haven't even gotten a real uh

501

00:28:18,070 --> 00:28:16,720

title for you yet no you you're giving

502

00:28:19,430 --> 00:28:18,080

me a lot of good suggestions though

503

00:28:21,430 --> 00:28:19,440

marcia we'll have to see how this all

504

00:28:23,029 --> 00:28:21,440

pans out uh i i think right now we'll

505

00:28:24,470 --> 00:28:23,039

stick with the uh with the title of a

506

00:28:27,350 --> 00:28:24,480

commercial astronaut

507

00:28:29,830 --> 00:28:27,360

and and one more for you um what do you

508

00:28:32,470 --> 00:28:29,840

think you bring to the flight that your

509

00:28:33,669 --> 00:28:32,480

colleagues next you do not have you know

510

00:28:35,110 --> 00:28:33,679

what um

511

00:28:37,190 --> 00:28:35,120

what does the boeing

512

00:28:38,149 --> 00:28:37,200

test pilot bring the nasa astronauts

513

00:28:40,230 --> 00:28:38,159

don't

514

00:28:42,070 --> 00:28:40,240

not much marcia i'll tell you this is a

515

00:28:43,909 --> 00:28:42,080

real esteemed crowd a lot of space

516

00:28:45,269 --> 00:28:43,919

flight experience here i've had the

517

00:28:47,590 --> 00:28:45,279

pleasure of flying with a couple of

518

00:28:50,230 --> 00:28:47,600

these gentlemen in the past so in terms

519

00:28:51,909 --> 00:28:50,240

of astronaut experience not much uh what

520

00:28:53,110 --> 00:28:51,919

i what i think i bring to the table is

521

00:28:55,590 --> 00:28:53,120

i've been involved with the boeing

522

00:28:56,870 --> 00:28:55,600

vehicle since day one so the very inner

523

00:28:59,590 --> 00:28:56,880

workings of it i understand my

524

00:29:02,470 --> 00:28:59,600

fingerprints are all over it so good or

525

00:29:04,870 --> 00:29:02,480

bad um it's uh it's got my name on it

526
00:29:06,950 --> 00:29:04,880
and i'm sure it's going to be good

527
00:29:08,789 --> 00:29:06,960
maybe for the others there how did you

528
00:29:12,389 --> 00:29:08,799
guys get assigned to did you have any

529
00:29:14,310 --> 00:29:12,399
say so in the um the assignment or how

530
00:29:15,830 --> 00:29:14,320
did they divvy you up

531
00:29:19,190 --> 00:29:15,840
well um

532
00:29:21,430 --> 00:29:19,200
i think you know the bob and eric and

533
00:29:23,830 --> 00:29:21,440
sonny williams and i were you know

534
00:29:26,230 --> 00:29:23,840
selected about three years ago to be

535
00:29:27,510 --> 00:29:26,240
part of the initial crew cadre is what

536
00:29:29,430 --> 00:29:27,520
we were called

537
00:29:30,630 --> 00:29:29,440
to start working with both companies and

538
00:29:32,470 --> 00:29:30,640

then i think

539

00:29:35,110 --> 00:29:32,480

obviously from that mix we all got

540

00:29:38,789 --> 00:29:35,120

selected and i think the best answer i

541

00:29:40,630 --> 00:29:38,799

can give you marcia is that we

542

00:29:42,310 --> 00:29:40,640

we probably deferred this question to

543

00:29:44,070 --> 00:29:42,320

pat forster who's the current chief of

544

00:29:45,830 --> 00:29:44,080

the astronaut office and he's probably

545

00:29:47,750 --> 00:29:45,840

got all those answers for you

546

00:29:48,950 --> 00:29:47,760

okay

547

00:29:50,710 --> 00:29:48,960

tell me this

548

00:29:52,149 --> 00:29:50,720

do you have a little competition going

549

00:29:56,789 --> 00:29:52,159

on

550

00:29:57,830 --> 00:29:56,799

who might get there first

551
00:29:59,350 --> 00:29:57,840
well there's

552
00:30:01,190 --> 00:29:59,360
there's always a little bit of friendly

553
00:30:02,789 --> 00:30:01,200
competition you know

554
00:30:05,190 --> 00:30:02,799
between flights but you know we're going

555
00:30:07,029 --> 00:30:05,200
to get to the space station uh safely so

556
00:30:08,310 --> 00:30:07,039
it's it's more of just

557
00:30:09,990 --> 00:30:08,320
you know something that will rip each

558
00:30:11,669 --> 00:30:10,000
other about it's not not something that

559
00:30:13,350 --> 00:30:11,679
we're going to press the bounds to make

560
00:30:14,870 --> 00:30:13,360
things happen we're going to you know

561
00:30:19,110 --> 00:30:14,880
make sure we get there safely and

562
00:30:23,909 --> 00:30:21,909
for the for the first crew test flights

563
00:30:27,510 --> 00:30:23,919

not the the next mission but for these

564

00:30:29,269 --> 00:30:27,520

first boeing and um spacex flights

565

00:30:32,470 --> 00:30:29,279

is that is currently being envisioned as

566

00:30:35,750 --> 00:30:32,480

a short flight uh and and what what

567

00:30:38,389 --> 00:30:35,760

what might short be um a week or a month

568

00:30:40,630 --> 00:30:38,399

i'm not clear on that

569

00:30:42,789 --> 00:30:40,640

at least on the on the spacex side we're

570

00:30:45,029 --> 00:30:42,799

expecting on the order of a couple weeks

571

00:30:47,029 --> 00:30:45,039

at this point so a relatively short

572

00:30:48,789 --> 00:30:47,039

mission we do need to fit in with all

573

00:30:50,870 --> 00:30:48,799

the other traffic that's headed towards

574

00:30:52,630 --> 00:30:50,880

the international space station which

575

00:30:54,549 --> 00:30:52,640

can be a challenge in and of itself and

576

00:30:57,110 --> 00:30:54,559

so right now still planning on a short

577

00:30:59,110 --> 00:30:57,120

mission on the on the spacex side

578

00:31:00,630 --> 00:30:59,120

and then on the boeing side it really

579

00:31:03,110 --> 00:31:00,640

depends when we launch

580

00:31:05,509 --> 00:31:03,120

if if we launch

581

00:31:07,269 --> 00:31:05,519

before before mid-year uh 2019 we're

582

00:31:08,950 --> 00:31:07,279

likely going to be a short mission if uh

583

00:31:10,789 --> 00:31:08,960

if for some reason we go a little bit

584

00:31:12,470 --> 00:31:10,799

later it's uh it has the potential to be

585

00:31:15,269 --> 00:31:12,480

up to six months

586

00:31:17,269 --> 00:31:15,279

uh and if it is six months i guess the

587

00:31:18,470 --> 00:31:17,279

whole crew just is up there for six

588

00:31:21,269 --> 00:31:18,480

months is that

589

00:31:25,029 --> 00:31:21,279

did i hear that right uh yes and uh

590

00:31:26,630 --> 00:31:25,039

we're undergoing um some uh initial iss

591

00:31:29,269 --> 00:31:26,640

training just to make sure that we can

592

00:31:30,789 --> 00:31:29,279

form a good solid crew to take uh good

593

00:31:33,110 --> 00:31:30,799

care of the iss while we're waiting for

594

00:31:34,630 --> 00:31:33,120

the next american crew to come up uh but

595

00:31:35,990 --> 00:31:34,640

the decision on the length of the

596

00:31:38,789 --> 00:31:36,000

mission will not be determined until

597

00:31:40,950 --> 00:31:38,799

sometime uh early next year

598

00:31:44,310 --> 00:31:40,960

i got that um

599

00:31:45,110 --> 00:31:44,320

what um you know for the spacex uh two

600

00:31:52,149 --> 00:31:45,120

um

601
00:31:53,909 --> 00:31:52,159
did you ever think you'd be

602
00:31:55,669 --> 00:31:53,919
sitting there on the same stage like you

603
00:31:57,350 --> 00:31:55,679
were today um

604
00:32:00,470 --> 00:31:57,360
both in the commercial crew business

605
00:32:02,389 --> 00:32:00,480
trying to to restart human launches u.s

606
00:32:05,029 --> 00:32:02,399
launches from here

607
00:32:07,029 --> 00:32:05,039
no honestly not you know like chris said

608
00:32:09,750 --> 00:32:07,039
you know when we got back from 135 we

609
00:32:10,630 --> 00:32:09,760
had a pretty uh extensive post flight

610
00:32:13,590 --> 00:32:10,640
but

611
00:32:15,269 --> 00:32:13,600
uh yeah i think both of us and probably

612
00:32:16,870 --> 00:32:15,279
sandy and rex who flew with us were just

613
00:32:18,870 --> 00:32:16,880

kind of thinking okay what do we do next

614

00:32:21,269 --> 00:32:18,880

we knew we were the last flight of the

615

00:32:23,509 --> 00:32:21,279

space shuttle program and so to to kind

616

00:32:26,230 --> 00:32:23,519

of skip ahead now seven years later and

617

00:32:27,350 --> 00:32:26,240

and and be up here as part of this group

618

00:32:33,190 --> 00:32:27,360

uh

619

00:32:34,870 --> 00:32:33,200

i'm glad to be here

620

00:32:36,630 --> 00:32:34,880

well you know um administrator

621

00:32:37,830 --> 00:32:36,640

breidenstein you heard him say that you

622

00:32:42,950 --> 00:32:37,840

know

623

00:32:44,950 --> 00:32:42,960

back nasa's back um

624

00:32:46,310 --> 00:32:44,960

do you you know right after the last

625

00:32:49,110 --> 00:32:46,320

shuttle flight it must have been

626

00:32:51,029 --> 00:32:49,120

disheartening for all of you um

627

00:32:53,990 --> 00:32:51,039

knowing that there was nothing imminent

628

00:32:55,350 --> 00:32:54,000

how important is that alone just the the

629

00:32:57,990 --> 00:32:55,360

morale boost

630

00:33:03,190 --> 00:32:58,000

needed for to get americans flying from

631

00:33:08,470 --> 00:33:06,470

well it's a great boost to morale

632

00:33:11,190 --> 00:33:08,480

having three we not only have these two

633

00:33:13,830 --> 00:33:11,200

ships the boeing and spacex vehicles but

634

00:33:15,430 --> 00:33:13,840

orion's just behind that and i i told

635

00:33:17,110 --> 00:33:15,440

the new astronaut candidates that showed

636

00:33:19,509 --> 00:33:17,120

up as that their timing was impeccable

637

00:33:20,630 --> 00:33:19,519

because it's very unusual this first

638

00:33:22,389 --> 00:33:20,640

time in history that we had three

639

00:33:26,549 --> 00:33:22,399

spacecraft being built

640

00:33:30,630 --> 00:33:28,389

you know and i sort of touched on this

641

00:33:32,549 --> 00:33:30,640

earlier but you know you guys are you're

642

00:33:34,470 --> 00:33:32,559

going to be test pilots

643

00:33:35,269 --> 00:33:34,480

you're going to be the the first ones

644

00:33:38,149 --> 00:33:35,279

and

645

00:33:40,549 --> 00:33:38,159

sort of um harkens back to the you know

646

00:33:43,430 --> 00:33:40,559

the like i said the early days of space

647

00:33:45,669 --> 00:33:43,440

flight the tom wolf wright stuff um

648

00:33:46,870 --> 00:33:45,679

do you sort of get that sense that this

649

00:33:49,029 --> 00:33:46,880

is not just

650

00:33:50,549 --> 00:33:49,039

that there's more than there's more to

651
00:33:52,389 --> 00:33:50,559
this than just your average space

652
00:33:54,710 --> 00:33:52,399
mission the the shuttle mission as it

653
00:33:59,190 --> 00:33:56,630
i think we all kind of recognize that

654
00:34:01,669 --> 00:33:59,200
the opportunity to fly first on on a new

655
00:34:03,190 --> 00:34:01,679
vehicle is a is a special one all of us

656
00:34:05,669 --> 00:34:03,200
who went through all of us went through

657
00:34:07,190 --> 00:34:05,679
a test pod school program and if you ask

658
00:34:08,869 --> 00:34:07,200
us while we were students there i'm sure

659
00:34:11,270 --> 00:34:08,879
every one of us would have said testing

660
00:34:13,270 --> 00:34:11,280
a new spacecraft was probably the top of

661
00:34:14,470 --> 00:34:13,280
any list given that opportunity that we

662
00:34:17,190 --> 00:34:14,480
would want to

663
00:34:19,510 --> 00:34:17,200

take a take a chance and be a part of um

664

00:34:21,589 --> 00:34:19,520

i think really at least for myself that

665

00:34:23,190 --> 00:34:21,599

that aspect of being first and being

666

00:34:24,710 --> 00:34:23,200

able to look back on it in history is

667

00:34:26,950 --> 00:34:24,720

going to be something that uh i'll

668

00:34:29,109 --> 00:34:26,960

probably cherish after i've done it but

669

00:34:30,629 --> 00:34:29,119

uh while we make our way to that point

670

00:34:31,990 --> 00:34:30,639

uh we really do have a lot of work in

671

00:34:33,990 --> 00:34:32,000

front of us that i know that i'll

672

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

definitely be focused on and

673

00:34:37,990 --> 00:34:35,839

that's going to take up most of my most

674

00:34:40,710 --> 00:34:38,000

of my brain cells as we as we march

675

00:34:43,589 --> 00:34:40,720

towards the launch date

676
00:34:45,990 --> 00:34:43,599
any anxiety or i i mean i know you guys

677
00:34:47,909 --> 00:34:46,000
don't really get scared but

678
00:34:50,069 --> 00:34:47,919
this is these are brand new um

679
00:34:52,629 --> 00:34:50,079
spacecraft and and this is the first

680
00:34:55,669 --> 00:34:52,639
time that um companies will be doing

681
00:34:58,710 --> 00:34:55,679
this what about what's your any safety

682
00:35:01,670 --> 00:34:58,720
worries or or personal anxiety that you

683
00:35:03,430 --> 00:35:01,680
you have to deal with over the next year

684
00:35:05,109 --> 00:35:03,440
you know this will be my first uh first

685
00:35:07,030 --> 00:35:05,119
flight to space and i think certainly

686
00:35:08,710 --> 00:35:07,040
sitting on that launch pad there'll be a

687
00:35:10,950 --> 00:35:08,720
lot of adrenaline and my heart be

688
00:35:12,790 --> 00:35:10,960

pounding pretty pretty heavily but

689

00:35:14,390 --> 00:35:12,800

there's no fear it's not it's not

690

00:35:15,589 --> 00:35:14,400

anything to be scared about i mean both

691

00:35:17,589 --> 00:35:15,599

these companies

692

00:35:18,870 --> 00:35:17,599

have incredible people that are working

693

00:35:21,190 --> 00:35:18,880

to build these vehicles and they're

694

00:35:22,310 --> 00:35:21,200

going to be safe and reliable and we're

695

00:35:23,670 --> 00:35:22,320

going to launch

696

00:35:25,030 --> 00:35:23,680

when we're ready to launch and these

697

00:35:26,710 --> 00:35:25,040

vehicles are going to be safe as

698

00:35:28,310 --> 00:35:26,720

feasibly possible so

699

00:35:29,829 --> 00:35:28,320

we're going to train well to test these

700

00:35:31,030 --> 00:35:29,839

vehicles to ring them out make sure our

701
00:35:32,550 --> 00:35:31,040
procedures are correct that we're

702
00:35:34,550 --> 00:35:32,560
trained up and when it's time to be

703
00:35:36,790 --> 00:35:34,560
launched we'll be ready to go

704
00:35:38,310 --> 00:35:36,800
um nicole you're in the unique position

705
00:35:42,470 --> 00:35:38,320
of having you know having this be your

706
00:35:45,990 --> 00:35:42,480
very first space flight wow i mean um

707
00:35:47,589 --> 00:35:46,000
is that like up the cool factor for you

708
00:35:49,270 --> 00:35:47,599
i mean it certainly does and i tell you

709
00:35:51,430 --> 00:35:49,280
it's it's really going to be an honor to

710
00:35:53,670 --> 00:35:51,440
work and train with my two crewmates

711
00:35:55,190 --> 00:35:53,680
here they have a vast amount of flight

712
00:35:56,950 --> 00:35:55,200
experience and i'm going to learn so

713
00:35:58,870 --> 00:35:56,960

much from them not only on flying the

714

00:36:00,950 --> 00:35:58,880

vehicle and operating space but just

715

00:36:02,470 --> 00:36:00,960

from working on a crew as well hopefully

716

00:36:04,310 --> 00:36:02,480

when i come back to earth i'll be able

717

00:36:06,069 --> 00:36:04,320

to take what i've learned some of those

718

00:36:08,390 --> 00:36:06,079

lessons learned and apply that to our

719

00:36:10,069 --> 00:36:08,400

feature space programs

720

00:36:12,150 --> 00:36:10,079

for chris and doug

721

00:36:15,109 --> 00:36:12,160

it'll be eight years next summer by the

722

00:36:17,030 --> 00:36:15,119

time your shuttle swill stopped i mean

723

00:36:20,150 --> 00:36:17,040

that's a long time i mean did you really

724

00:36:20,870 --> 00:36:20,160

expect it to take that long

725

00:36:22,630 --> 00:36:20,880

uh

726

00:36:25,829 --> 00:36:22,640

well i when i embarked on this adventure

727

00:36:27,990 --> 00:36:25,839

i thought 2015 was the right year um and

728

00:36:29,670 --> 00:36:28,000

uh you know for a combination of things

729

00:36:31,430 --> 00:36:29,680

we both find ourselves in a very similar

730

00:36:34,870 --> 00:36:31,440

position getting ready to launch in in

731

00:36:36,550 --> 00:36:34,880

2018 um you know i i certainly think

732

00:36:38,710 --> 00:36:36,560

that we're willing to wait for the right

733

00:36:41,190 --> 00:36:38,720

uh for the right ride at the right time

734

00:36:42,870 --> 00:36:41,200

and uh and one that's safe so uh did i

735

00:36:44,069 --> 00:36:42,880

think i'd be here

736

00:36:45,750 --> 00:36:44,079

no

737

00:36:47,030 --> 00:36:45,760

but i'm happy we're flying next year

738

00:36:48,870 --> 00:36:47,040

yeah doug

739

00:36:52,069 --> 00:36:48,880

yeah i would i would agree with chris

740

00:36:53,670 --> 00:36:52,079

marsha you know it's uh you fly when

741

00:36:55,349 --> 00:36:53,680

you're ready to fly and you don't push

742

00:36:57,750 --> 00:36:55,359

things and you don't you don't try to

743

00:36:58,790 --> 00:36:57,760

rush into especially the first flight of

744

00:37:00,790 --> 00:36:58,800

a vehicle

745

00:37:03,190 --> 00:37:00,800

and uh you know all of us have been part

746

00:37:05,750 --> 00:37:03,200

of military flight tests uh over the

747

00:37:06,950 --> 00:37:05,760

years and this is just part of the deal

748

00:37:10,390 --> 00:37:06,960

you know we

749

00:37:13,270 --> 00:37:10,400

we we do the work we need to do and

750

00:37:14,870 --> 00:37:13,280

everybody you know has to sign off and

751

00:37:17,270 --> 00:37:14,880

and be ready to fly these vehicles

752

00:37:19,670 --> 00:37:17,280

before uh we get on board and actually

753

00:37:22,470 --> 00:37:19,680

take them up for the test flights

754

00:37:24,710 --> 00:37:22,480

whoever goes first whichever vehicle it

755

00:37:27,829 --> 00:37:24,720

is and even for both of the launches i

756

00:37:30,470 --> 00:37:27,839

mean can i mean is this going to be like

757

00:37:35,109 --> 00:37:30,480

one entirely stupendous day when when

758

00:37:38,630 --> 00:37:36,870

it's going to be an amazing day for all

759

00:37:39,910 --> 00:37:38,640

of us uh nicole will be probably the

760

00:37:43,030 --> 00:37:39,920

most amazing because she hasn't done it

761

00:37:44,950 --> 00:37:43,040

before but the the other four of us are

762

00:37:47,109 --> 00:37:44,960

going to be you know every space flight

763

00:37:49,190 --> 00:37:47,119

is we feel extremely lucky to get the

764

00:37:51,030 --> 00:37:49,200

opportunity to fly in space and it's

765

00:37:53,510 --> 00:37:51,040

going to be exciting times when we get

766

00:37:55,430 --> 00:37:53,520

that first rocket out on the pad

767

00:37:57,589 --> 00:37:55,440

and i think to add to that i think that

768

00:37:59,510 --> 00:37:57,599

the the coming home is a it's a big

769

00:38:01,829 --> 00:37:59,520

piece of that as well and so returning

770

00:38:03,109 --> 00:38:01,839

safely is as you know that's the other

771

00:38:04,470 --> 00:38:03,119

part of that experience and i think

772

00:38:06,069 --> 00:38:04,480

that's when the adrenaline will come

773

00:38:08,150 --> 00:38:06,079

back down and we'll we'll feel our sense

774

00:38:09,750 --> 00:38:08,160

of accomplishment

775

00:38:11,670 --> 00:38:09,760

do you put it up there maybe with the

776

00:38:16,310 --> 00:38:11,680

first shuttle flight where do you put

777

00:38:22,069 --> 00:38:19,190

i think you know somebody else gonna

778

00:38:24,150 --> 00:38:22,079

have to figure that out you know we

779

00:38:27,030 --> 00:38:24,160

we are uh you know we're lucky enough to

780

00:38:29,190 --> 00:38:27,040

be a part of this program and uh you

781

00:38:31,349 --> 00:38:29,200

know having gotten to meet i think

782

00:38:32,470 --> 00:38:31,359

almost all of us have got to meet uh

783

00:38:35,109 --> 00:38:32,480

john and

784

00:38:37,589 --> 00:38:35,119

and uh many times over the years

785

00:38:38,790 --> 00:38:37,599

and uh i certainly wouldn't

786

00:38:40,550 --> 00:38:38,800

you know

787

00:38:42,069 --> 00:38:40,560

compare anything that i do with

788

00:38:43,670 --> 00:38:42,079

something that those guys did they're

789

00:38:45,190 --> 00:38:43,680

they're they're true great american

790

00:38:47,670 --> 00:38:45,200

heroes but

791

00:38:49,990 --> 00:38:47,680

by the same token you know we are proud

792

00:38:53,270 --> 00:38:50,000

to be part of this program and that next

793

00:38:55,589 --> 00:38:53,280

step in american space flight

794

00:38:57,829 --> 00:38:55,599

well thanks a lot and good luck to all

795

00:39:00,390 --> 00:38:57,839

you and i'm sure we'll be speaking uh

796

00:50:47,190 --> 00:39:00,400

over the next year

797

00:50:51,589 --> 00:50:49,750

described for over 10 years it's the

798

00:50:55,030 --> 00:50:51,599

number one prescribed biologic by

799

00:50:56,790 --> 00:50:55,040

dermatologist more than 250 000 patients

800

00:51:00,150 --> 00:50:56,800

have chosen humera to fight their

801
00:51:02,470 --> 00:51:00,160
psoriasis and they're not backing down

802
00:51:03,750 --> 00:51:02,480
for most patients clearer skin is the

803
00:51:05,589 --> 00:51:03,760
proof

804
00:51:07,430 --> 00:51:05,599
humera can lower your ability to fight

805
00:51:09,270 --> 00:51:07,440
infections including tuberculosis

806
00:51:11,510 --> 00:51:09,280
serious sometimes fatal infections and

807
00:51:13,430 --> 00:51:11,520
transfers include awesome man get a uh

808
00:51:16,230 --> 00:51:13,440
open mic check please just

809
00:51:21,190 --> 00:51:16,240
everyone count to ten for me real quick

810
00:51:22,630 --> 00:51:21,200
one two three four five six seven

811
00:51:25,349 --> 00:51:22,640
are common and eight you've had tb

812
00:51:27,270 --> 00:51:25,359
hepatitis b fantastic thank all of you

813
00:51:30,390 --> 00:51:27,280

symptoms are swords don't start humira

814

00:51:33,109 --> 00:51:30,400

if you have an infection join over 250

815

00:51:36,710 --> 00:51:33,119

000 people who have chosen humera ask

816

00:51:39,430 --> 00:51:36,720

your dermatologist about humera and go

817

00:51:40,950 --> 00:51:39,440

all of my life i've looked for ways to

818

00:51:42,870 --> 00:51:40,960

help people

819

00:51:45,910 --> 00:51:42,880

we know we can't always bring our

820

00:51:48,549 --> 00:51:45,920

clients the physical relief they deserve

821

00:51:50,870 --> 00:51:48,559

it's the reason we work so hard to fight

822

00:51:52,630 --> 00:51:50,880

for the financial relief they need

823

00:51:54,630 --> 00:51:52,640

if you have a condition which prohibits

824

00:51:56,790 --> 00:51:54,640

you from earning a living there are

825

00:51:58,870 --> 00:51:56,800

better days ahead

826
00:52:00,390 --> 00:51:58,880
with offices throughout the state

827
00:52:01,990 --> 00:52:00,400
there's a good chance we have one in

828
00:52:04,150 --> 00:52:02,000
your neighborhood

829
00:52:06,870 --> 00:52:04,160
call pit cincinnati we'll get you the

830
00:52:09,349 --> 00:52:06,880
disability benefits you deserve tired of

831
00:52:11,990 --> 00:52:09,359
paying taxes well at story lee furniture

832
00:52:13,589 --> 00:52:12,000
we want to give you some tax relief

833
00:52:15,670 --> 00:52:13,599
right now we'll deduct the amount of

834
00:52:18,390 --> 00:52:15,680
your state sales tax from your purchase

835
00:52:21,430 --> 00:52:18,400
as a rebate back to you we want to be

836
00:52:22,950 --> 00:52:21,440
your furniture store

837
00:52:24,549 --> 00:52:22,960
i relate the berries and real fruit

838
00:52:25,990 --> 00:52:24,559

berry shakes because they're small but

839

00:52:28,710 --> 00:52:26,000

powerful i relate to the ice cream

840

00:52:31,990 --> 00:52:28,720

because it's rich and has an amazing

841

00:52:33,510 --> 00:52:32,000

singing vice

842

00:52:35,030 --> 00:52:33,520

real ice cream and berries new real

843

00:52:37,589 --> 00:52:35,040

fruit berry shakes get them half price

844

00:52:40,230 --> 00:52:37,599

after 8 pm for a limited time

845

00:52:42,630 --> 00:52:40,240

you're watching waff 48 news and the

846

00:52:44,470 --> 00:52:42,640

raycom news network alabama's news

847

00:52:46,069 --> 00:52:44,480

source

848

00:52:48,710 --> 00:52:46,079

relaunching this country's human

849

00:52:50,870 --> 00:52:48,720

spaceflight program today nasa announced

850

00:52:53,430 --> 00:52:50,880

the american space farers who will once

851
00:52:56,630 --> 00:52:53,440
again be the first to launch into space

852
00:52:58,710 --> 00:52:56,640
on private non-nasa spacecraft headed to

853
00:53:01,430 --> 00:52:58,720
the international space station summer

854
00:53:03,430 --> 00:53:01,440
season astronauts others are not one is

855
00:53:05,990 --> 00:53:03,440
actually coming out of retirement they

856
00:53:08,470 --> 00:53:06,000
all join us now live from the johnson

857
00:53:12,069 --> 00:53:08,480
space center what a treat this is great

858
00:53:13,430 --> 00:53:12,079
to see you all some of you again

859
00:53:15,349 --> 00:53:13,440
chris ferguson you've come out of

860
00:53:17,829 --> 00:53:15,359
retirement you're back in the satellite

861
00:53:20,790 --> 00:53:17,839
part of boeing flying on a decatur built

862
00:53:23,190 --> 00:53:20,800
atlas 5. doug hurley the bookend on the

863
00:53:25,750 --> 00:53:23,200

right you're flying on a spacex falcon

864

00:53:27,430 --> 00:53:25,760

9. your last flight was together on the

865

00:53:29,910 --> 00:53:27,440

final flight of the shuttle program

866

00:53:31,910 --> 00:53:29,920

seven years ago when we last spoke

867

00:53:34,390 --> 00:53:31,920

now this first flight for both of you on

868

00:53:37,030 --> 00:53:34,400

a commercial rocket has been delayed

869

00:53:40,390 --> 00:53:37,040

will we see a first certified crude

870

00:53:42,870 --> 00:53:40,400

flight on both rockets to the iss before

871

00:53:45,910 --> 00:53:42,880

next november when america loses its

872

00:53:47,190 --> 00:53:45,920

taxi service from russia

873

00:53:48,950 --> 00:53:47,200

of course liz we're going to fly when

874

00:53:52,150 --> 00:53:48,960

it's safe and when the rockets are ready

875

00:53:53,750 --> 00:53:52,160

um but as you had mentioned uh where the

876

00:53:55,270 --> 00:53:53,760

boeing vehicle will launch on top of an

877

00:53:57,510 --> 00:53:55,280

atlas 5 which is made right there in

878

00:53:59,190 --> 00:53:57,520

decaturn right down the road uh we're

879

00:54:01,750 --> 00:53:59,200

very confident that we're on track to

880

00:54:03,349 --> 00:54:01,760

fly uh at least uh one and likely two

881

00:54:05,589 --> 00:54:03,359

and if we're lucky maybe even three

882

00:54:10,069 --> 00:54:05,599

flights next year but again we'll we'll

883

00:54:14,390 --> 00:54:11,990

good eric bowe a seasoned southerner

884

00:54:16,309 --> 00:54:14,400

nicole mann your first space flight you

885

00:54:19,670 --> 00:54:16,319

both will be part of another first

886

00:54:22,549 --> 00:54:19,680

flying on a ula atlas 5 inside a boeing

887

00:54:24,309 --> 00:54:22,559

capsule how does that feel and tell me

888

00:54:27,109 --> 00:54:24,319

about your visit here to north alabama

889

00:54:28,950 --> 00:54:27,119

preparing for this maiden voyage

890

00:54:30,309 --> 00:54:28,960

well it's uh we're honored to get the

891

00:54:32,470 --> 00:54:30,319

opportunity to do this especially on our

892

00:54:34,309 --> 00:54:32,480

first flight flying the first vehicle it

893

00:54:37,109 --> 00:54:34,319

was neat being being able to go to

894

00:54:39,270 --> 00:54:37,119

decatour and see the uh the ship being

895

00:54:45,589 --> 00:54:39,280

built it's uh basically waiting to ship

896

00:54:50,470 --> 00:54:48,630

and nicole is your first space flight

897

00:54:53,030 --> 00:54:50,480

it sure is and i i couldn't be more

898

00:54:54,950 --> 00:54:53,040

excited this is a great opportunity to

899

00:54:57,270 --> 00:54:54,960

fly on this vehicle and we're looking

900

00:54:58,549 --> 00:54:57,280

forward to launching from american soil

901
00:54:59,910 --> 00:54:58,559
you know as a rookie i get the

902
00:55:01,589 --> 00:54:59,920
opportunity to fly with two very

903
00:55:03,190 --> 00:55:01,599
seasoned uh

904
00:55:07,589 --> 00:55:03,200
crew members here and so i'm looking

905
00:55:11,750 --> 00:55:09,030
what do you think your biggest challenge

906
00:55:14,309 --> 00:55:12,789
you know i think we're going to start

907
00:55:16,470 --> 00:55:14,319
the training flow and there's a lot of

908
00:55:17,829 --> 00:55:16,480
work to do in order to get ready to

909
00:55:19,990 --> 00:55:17,839
launch we're still developing some of

910
00:55:21,510 --> 00:55:20,000
the procedures and the operations and

911
00:55:22,870 --> 00:55:21,520
the techniques for flying this vehicle

912
00:55:24,470 --> 00:55:22,880
but to be honest that's really going to

913
00:55:26,470 --> 00:55:24,480

be the fun start part we're working with

914

00:55:28,309 --> 00:55:26,480

the nasa boeing team to get that all

915

00:55:30,069 --> 00:55:28,319

laying flat there's a lot of testing to

916

00:55:31,990 --> 00:55:30,079

be done and then there's just training

917

00:55:34,549 --> 00:55:32,000

to do to get ourselves ready

918

00:55:36,390 --> 00:55:34,559

so you know we look towards towards next

919

00:55:39,750 --> 00:55:36,400

year on the launch and we'll be ready to

920

00:55:44,549 --> 00:55:42,309

very good thank you bob and doug you are

921

00:55:47,030 --> 00:55:44,559

both astronauts married to astronauts

922

00:55:49,270 --> 00:55:47,040

you both have kids this is a risky

923

00:55:51,510 --> 00:55:49,280

profession to begin with to be the first

924

00:55:53,030 --> 00:55:51,520

now for spacex what are you telling your

925

00:55:55,270 --> 00:55:53,040

kids

926

00:55:56,789 --> 00:55:55,280

i think it's a a risky profession but

927

00:55:58,789 --> 00:55:56,799

one worth doing and that's the message

928

00:56:00,230 --> 00:55:58,799

that i share with my son i think he's a

929

00:56:02,230 --> 00:56:00,240

little bit young to truly understand

930

00:56:03,910 --> 00:56:02,240

that he's just four years old his

931

00:56:06,150 --> 00:56:03,920

biggest question once he found out i was

932

00:56:08,470 --> 00:56:06,160

flying on a on a dragon was whether or

933

00:56:10,470 --> 00:56:08,480

not it was going to roar so uh

934

00:56:12,549 --> 00:56:10,480

that's out there as well so i definitely

935

00:56:15,270 --> 00:56:12,559

have some some work to do to make sure

936

00:56:17,990 --> 00:56:15,280

he understands and appreciates the cme

937

00:56:22,150 --> 00:56:18,000

launch into space on on a spacex rocket

938

00:56:25,430 --> 00:56:23,109

doug

939

00:56:26,589 --> 00:56:25,440

yeah my son was a year old when chris

940

00:56:29,750 --> 00:56:26,599

and i flew on

941

00:56:31,829 --> 00:56:29,760

sts-135 so i'm really looking forward to

942

00:56:33,430 --> 00:56:31,839

sharing this new experience with him

943

00:56:35,510 --> 00:56:33,440

where he's a lot older and can

944

00:56:38,630 --> 00:56:35,520

understand kind of how things are and

945

00:56:40,309 --> 00:56:38,640

how things go and just getting to really

946

00:56:44,309 --> 00:56:40,319

enjoy that experience in florida

947

00:56:47,030 --> 00:56:46,150

very good okay last question show of

948

00:56:55,990 --> 00:56:47,040

hands

949

00:56:56,000 --> 00:57:01,910

the next

950

00:57:05,349 --> 00:57:03,430

thank you all so much for being with us

951

00:57:07,190 --> 00:57:05,359

today good luck from the rocket city

952

00:57:10,549 --> 00:57:07,200

we'll be watching the progress from the

953

00:57:13,190 --> 00:57:10,559

launch pad cheering you all on blue sky

954

00:59:39,190 --> 00:57:13,200

thank you thanks liz

955

00:59:43,270 --> 00:59:41,030

hey everyone i'm gavino with reuters

956

00:59:46,069 --> 00:59:43,280

television uh congratulations on being

957

00:59:49,430 --> 00:59:46,079

the first uh i guess u.s crew since 2011

958

00:59:51,430 --> 00:59:49,440

to head to space um how's it going

959

00:59:53,190 --> 00:59:51,440

great good thank you thanks

960

00:59:54,870 --> 00:59:53,200

i'm doing very well thanks so i just

961

00:59:57,670 --> 00:59:54,880

wanted to kick off talking about the

962

00:59:59,910 --> 00:59:57,680

fact that you you're all on a space

963

01:00:03,750 --> 00:59:59,920

test flight

964

01:00:05,829 --> 01:00:03,760

you're going to have all the kinks work

965

01:00:07,589 --> 01:00:05,839

worked out by the time you guys head off

966

01:00:09,910 --> 01:00:07,599

do you think does that make you any

967

01:00:14,549 --> 01:00:09,920

nervous at all being on the first i

968

01:00:16,230 --> 01:00:14,559

guess space taxi um to the iss and um i

969

01:00:18,870 --> 01:00:16,240

guess i want to direct that question to

970

01:00:21,190 --> 01:00:18,880

bob benkin as you have spent a

971

01:00:23,829 --> 01:00:21,200

considerable amount of uh time and space

972

01:00:25,829 --> 01:00:23,839

37 hours do you think you're ready

973

01:00:27,270 --> 01:00:25,839

i think that we're definitely on a path

974

01:00:28,789 --> 01:00:27,280

to get ready you know we aren't

975

01:00:30,710 --> 01:00:28,799

launching today we aren't launching

976

01:00:33,030 --> 01:00:30,720

tomorrow so we do have uh some months in

977

01:00:35,190 --> 01:00:33,040

front of us to continue our preparation

978

01:00:37,190 --> 01:00:35,200

i i do think that being a first flight i

979

01:00:38,630 --> 01:00:37,200

really am i'm motivated i know doug is

980

01:00:39,910 --> 01:00:38,640

motivated as well as the rest of the

981

01:00:42,309 --> 01:00:39,920

folks who are sitting on a stage here

982

01:00:44,150 --> 01:00:42,319

today to know all we can about those

983

01:00:45,510 --> 01:00:44,160

vehicles because i think if you ask

984

01:00:47,349 --> 01:00:45,520

those of us who've

985

01:00:48,870 --> 01:00:47,359

flown in space before or even in

986

01:00:50,630 --> 01:00:48,880

airplanes before there's been something

987

01:00:52,710 --> 01:00:50,640

that's happened to us that surprised us

988

01:00:54,150 --> 01:00:52,720

and we had to rely on our experience

989

01:00:55,829 --> 01:00:54,160

with the airplane and what we knew about

990

01:00:58,309 --> 01:00:55,839

it or the spacecraft and what we knew

991

01:01:00,710 --> 01:00:58,319

about it in order to kind of safely work

992

01:01:02,309 --> 01:01:00,720

through or efficiently work through or

993

01:01:03,750 --> 01:01:02,319

otherwise kind of make it through and

994

01:01:05,270 --> 01:01:03,760

still accomplish the mission that was in

995

01:01:07,270 --> 01:01:05,280

front of us and so i think we're all

996

01:01:08,950 --> 01:01:07,280

motivated to do that and the test

997

01:01:09,670 --> 01:01:08,960

flights definitely do turn it up a notch

998

01:01:11,109 --> 01:01:09,680

but

999

01:01:13,510 --> 01:01:11,119

that's what we're probably most excited

1000

01:01:17,109 --> 01:01:15,510

and i want to direct this next question

1001
01:01:18,710 --> 01:01:17,119
to nicole

1002
01:01:21,670 --> 01:01:18,720
you're going to be the first american

1003
01:01:23,829 --> 01:01:21,680
woman launching from u.s soil

1004
01:01:26,230 --> 01:01:23,839
and so you're obviously an inspirational

1005
01:01:29,109 --> 01:01:26,240
figure to so many kids around the united

1006
01:01:32,390 --> 01:01:29,119
states but you're also the first um this

1007
01:01:34,309 --> 01:01:32,400
is your first trip in space so how are

1008
01:01:36,150 --> 01:01:34,319
you how does that make you feel

1009
01:01:37,990 --> 01:01:36,160
uh actually you know it makes me feel

1010
01:01:39,670 --> 01:01:38,000
really excited to be honest it's a

1011
01:01:42,150 --> 01:01:39,680
incredible opportunity

1012
01:01:44,390 --> 01:01:42,160
to go to space and to be a part of this

1013
01:01:46,069 --> 01:01:44,400

crew you know i'm flying with eric and

1014

01:01:47,670 --> 01:01:46,079

fergie and they have a wealth of

1015

01:01:49,670 --> 01:01:47,680

experience and so i'm looking forward to

1016

01:01:51,990 --> 01:01:49,680

training along these two gentlemen and

1017

01:01:54,069 --> 01:01:52,000

flying in space and i plan to learn a

1018

01:01:55,910 --> 01:01:54,079

lot from them and we'll bring that back

1019

01:01:58,470 --> 01:01:55,920

to nasa and then hopefully apply that to

1020

01:02:01,589 --> 01:01:58,480

our feature space programs

1021

01:02:04,150 --> 01:02:01,599

and um in terms of training uh what did

1022

01:02:07,029 --> 01:02:04,160

you have to go through to i guess

1023

01:02:08,710 --> 01:02:07,039

be ready because all the rest of your um

1024

01:02:10,069 --> 01:02:08,720

uh i guess the crew that you're going to

1025

01:02:12,390 --> 01:02:10,079

be traveling with they've they've been

1026

01:02:14,150 --> 01:02:12,400

to space before what did what sort of

1027

01:02:16,870 --> 01:02:14,160

hurdles did you have to overcome to be

1028

01:02:18,950 --> 01:02:16,880

able to i guess get in the cockpit

1029

01:02:20,630 --> 01:02:18,960

so i've been at nasa for five years now

1030

01:02:22,630 --> 01:02:20,640

and during those first two years you go

1031

01:02:24,710 --> 01:02:22,640

through your initial training and you

1032

01:02:26,710 --> 01:02:24,720

know spacewalk training robotics and how

1033

01:02:28,789 --> 01:02:26,720

to operate on board the international

1034

01:02:30,309 --> 01:02:28,799

space station so i've already completed

1035

01:02:32,230 --> 01:02:30,319

that portion of the training and now

1036

01:02:33,829 --> 01:02:32,240

we'll be able to focus specifically on

1037

01:02:36,470 --> 01:02:33,839

starliner and getting ready for that

1038

01:02:41,670 --> 01:02:38,710

so most of you have

1039

01:02:43,910 --> 01:02:41,680

already worked with nasa and been in

1040

01:02:46,870 --> 01:02:43,920

space and had considerable experience in

1041

01:02:49,109 --> 01:02:46,880

the armed services u.s veterans but what

1042

01:02:50,789 --> 01:02:49,119

does this partnership with the private

1043

01:02:52,630 --> 01:02:50,799

sector mean

1044

01:02:54,230 --> 01:02:52,640

how has it helped

1045

01:02:55,829 --> 01:02:54,240

nasa and

1046

01:02:58,309 --> 01:02:55,839

would you consider it

1047

01:03:01,270 --> 01:02:58,319

saving nasa's space flight program and i

1048

01:03:03,430 --> 01:03:01,280

guess i want to direct that question to

1049

01:03:05,990 --> 01:03:03,440

christopher who is the boeing astronaut

1050

01:03:08,069 --> 01:03:06,000

today um so christopher tell me a little

1051
01:03:11,109 --> 01:03:08,079
bit about this partnership and how you

1052
01:03:12,630 --> 01:03:11,119
feel it is good for boeing and spacex

1053
01:03:14,710 --> 01:03:12,640
and nasa

1054
01:03:17,190 --> 01:03:14,720
well where i think we're headed in terms

1055
01:03:18,390 --> 01:03:17,200
of commercial space is um in low earth

1056
01:03:21,270 --> 01:03:18,400
orbit where the international space

1057
01:03:23,029 --> 01:03:21,280
station currently uh is spent over 20

1058
01:03:24,390 --> 01:03:23,039
years i think what you'll see is

1059
01:03:26,630 --> 01:03:24,400
commercial companies will begin

1060
01:03:28,150 --> 01:03:26,640
servicing low earth orbit so we'll have

1061
01:03:30,150 --> 01:03:28,160
commercial service for passengers

1062
01:03:31,910 --> 01:03:30,160
commercial service for cargo and what

1063
01:03:34,549 --> 01:03:31,920

that really does for nasa you talk about

1064

01:03:36,549 --> 01:03:34,559

value is that it enables nasa to focus

1065

01:03:38,630 --> 01:03:36,559

exclusively on exploration

1066

01:03:40,390 --> 01:03:38,640

so you i could foresee a scenario where

1067

01:03:42,230 --> 01:03:40,400

we sort of populate low earth orbit with

1068

01:03:43,510 --> 01:03:42,240

whether it's the spacecraft or the cargo

1069

01:03:45,910 --> 01:03:43,520

that they need to carry on an

1070

01:03:47,829 --> 01:03:45,920

exploration mission to the moon or mars

1071

01:03:49,510 --> 01:03:47,839

and allow nasa to take over from low

1072

01:03:51,190 --> 01:03:49,520

earth orbit and push out to what they

1073

01:03:53,670 --> 01:03:51,200

call the space gateway which will be

1074

01:03:55,029 --> 01:03:53,680

orbiting uh the moon and then eventually

1075

01:03:57,029 --> 01:03:55,039

of course the

1076

01:04:00,710 --> 01:03:57,039

the ring at the end is going to be the

1077

01:04:06,230 --> 01:04:02,630

so this next question i just want to

1078

01:04:08,309 --> 01:04:06,240

direct to both teams both uh starliner

1079

01:04:11,510 --> 01:04:08,319

and the uh

1080

01:04:14,470 --> 01:04:11,520

crew dragon um

1081

01:04:16,150 --> 01:04:14,480

what uh are you what is going to be the

1082

01:04:18,789 --> 01:04:16,160

challenge once you get to the space

1083

01:04:21,510 --> 01:04:18,799

station um when we look at the launches

1084

01:04:23,589 --> 01:04:21,520

from baikonur uh we obviously are seeing

1085

01:04:24,630 --> 01:04:23,599

something that's been tried and trusted

1086

01:04:26,630 --> 01:04:24,640

before

1087

01:04:28,390 --> 01:04:26,640

is there some sort of special apparatus

1088

01:04:31,510 --> 01:04:28,400

that needs to be um

1089

01:04:33,589 --> 01:04:31,520

i guess uh equipped on the space station

1090

01:04:34,950 --> 01:04:33,599

to enable this uh sort of launch when

1091

01:04:38,950 --> 01:04:34,960

you get there

1092

01:04:41,829 --> 01:04:38,960

can one person answer from each team

1093

01:04:44,549 --> 01:04:41,839

well going up to the space station and

1094

01:04:46,150 --> 01:04:44,559

docking uh we we will need to hook up

1095

01:04:47,430 --> 01:04:46,160

the vehicles to make sure because the

1096

01:04:49,910 --> 01:04:47,440

the idea of the vehicles is to be able

1097

01:04:51,190 --> 01:04:49,920

to stay on station for uh six months and

1098

01:04:53,670 --> 01:04:51,200

so that's some of the things that we'll

1099

01:04:58,309 --> 01:04:56,150

yeah onboard space station there's a

1100

01:04:59,829 --> 01:04:58,319

docking adapter that's built for both

1101

01:05:01,750 --> 01:04:59,839

spacecraft so

1102

01:05:03,750 --> 01:05:01,760

you know we're both gonna

1103

01:05:06,069 --> 01:05:03,760

both vehicles can dock to the forward

1104

01:05:08,950 --> 01:05:06,079

part of the space station and and spend

1105

01:05:10,789 --> 01:05:08,960

as much as six months up there so

1106

01:05:12,230 --> 01:05:10,799

not really a special apparatus this was

1107

01:05:14,230 --> 01:05:12,240

all planned in advance and it's

1108

01:05:17,510 --> 01:05:14,240

something that both vehicles are capable

1109

01:05:23,270 --> 01:05:20,069

we've had a lot of chatter about your

1110

01:05:24,870 --> 01:05:23,280

i guess space flight uh

1111

01:05:27,829 --> 01:05:24,880

uniforms that you're going to be wearing

1112

01:05:29,670 --> 01:05:27,839

i don't know the technical term for them

1113

01:05:32,390 --> 01:05:29,680

but tell me a little bit about the

1114

01:05:33,510 --> 01:05:32,400

boeing uniform i see you smiling nicole

1115

01:05:34,710 --> 01:05:33,520

tell me a little bit about what it's

1116

01:05:37,109 --> 01:05:34,720

like wearing that

1117

01:05:39,029 --> 01:05:37,119

uh well so we call it a spacesuit and

1118

01:05:41,029 --> 01:05:39,039

it's a you know it's a pressure suit and

1119

01:05:43,270 --> 01:05:41,039

so that's for a launch and entry you

1120

01:05:44,870 --> 01:05:43,280

know if you happen to lose pressure in

1121

01:05:45,910 --> 01:05:44,880

the vehicle that suit is going to keep

1122

01:05:47,670 --> 01:05:45,920

you safe and it's going to keep you

1123

01:05:48,630 --> 01:05:47,680

alive so they're actually quite

1124

01:05:51,109 --> 01:05:48,640

comfortable

1125

01:05:52,230 --> 01:05:51,119

we do training in the suit uh you know

1126

01:05:54,309 --> 01:05:52,240

inside the vehicle so that we're

1127

01:05:56,230 --> 01:05:54,319

comfortable with it prior to launching

1128

01:05:58,789 --> 01:05:56,240

and uh their main job is to keep us safe

1129

01:06:00,630 --> 01:05:58,799

and they'll do that

1130

01:06:02,950 --> 01:06:00,640

and i think on the on the spacex side

1131

01:06:04,470 --> 01:06:02,960

you know very similar function you know

1132

01:06:06,789 --> 01:06:04,480

the physics is the same you're trying to

1133

01:06:09,109 --> 01:06:06,799

hold atmosphere inside a suit where the

1134

01:06:11,029 --> 01:06:09,119

where the person is and so we definitely

1135

01:06:12,630 --> 01:06:11,039

wear them for accent we wear it for

1136

01:06:14,470 --> 01:06:12,640

entry we'll wear them

1137

01:06:16,470 --> 01:06:14,480

uh to some extent during the docking

1138

01:06:18,069 --> 01:06:16,480

phase as well and so there there really

1139

01:06:19,349 --> 01:06:18,079

are just to protect that you still have

1140

01:06:21,109 --> 01:06:19,359

an atmosphere if you should have a

1141

01:06:24,069 --> 01:06:21,119

problem with the spacecraft itself and

1142

01:06:25,910 --> 01:06:24,079

so uh we we i've had the luxury i think

1143

01:06:27,589 --> 01:06:25,920

uh several of us have had the luxury of

1144

01:06:29,589 --> 01:06:27,599

wearing both of the suits and kind of

1145

01:06:32,230 --> 01:06:29,599

putting them through their paces and and

1146

01:06:34,710 --> 01:06:32,240

it is a really interesting to see how

1147

01:06:36,230 --> 01:06:34,720

that that simple function of physics of

1148

01:06:38,789 --> 01:06:36,240

basically needing a balloon to keep your

1149

01:06:40,230 --> 01:06:38,799

body in if it became necessary results

1150

01:06:42,390 --> 01:06:40,240

in something that may look drastically

1151

01:06:44,230 --> 01:06:42,400

different on the outside but functions

1152

01:06:45,990 --> 01:06:44,240

very similarly when you actually get to

1153

01:06:48,789 --> 01:06:46,000

wear it

1154

01:06:50,630 --> 01:06:48,799

but the the spacex version looks rather

1155

01:06:53,829 --> 01:06:50,640

sleek it seems to have a

1156

01:06:55,829 --> 01:06:53,839

little fewer bells and whistles on it

1157

01:06:57,589 --> 01:06:55,839

tell me about do you know does it have

1158

01:07:00,069 --> 01:06:57,599

any different functionality than the

1159

01:07:01,270 --> 01:07:00,079

boeing version

1160

01:07:03,430 --> 01:07:01,280

i think what you're seeing is that on

1161

01:07:05,829 --> 01:07:03,440

the on the boeing suit the connection

1162

01:07:07,589 --> 01:07:05,839

for the calm system and for the uh the

1163

01:07:09,510 --> 01:07:07,599

the breathing gas and the cooling gas is

1164

01:07:11,029 --> 01:07:09,520

up on the upper torso you don't quite

1165

01:07:12,549 --> 01:07:11,039

see the one that's uh in the on the

1166

01:07:15,589 --> 01:07:12,559

lower leg there's a little bit of a

1167

01:07:17,829 --> 01:07:15,599

cover over it on this spacex suit and so

1168

01:07:19,589 --> 01:07:17,839

those inner bases are kind of up front

1169

01:07:21,670 --> 01:07:19,599

and center on the on the boeing on the

1170

01:07:23,349 --> 01:07:21,680

boeing suit but uh they they still exist

1171

01:07:25,510 --> 01:07:23,359

on the spacex suit they're just uh

1172

01:07:27,910 --> 01:07:25,520

covered up with a little plastic cover

1173

01:07:29,750 --> 01:07:27,920

uh uh right now the on the right hand

1174

01:07:31,510 --> 01:07:29,760

leg so they've got the same functions

1175

01:07:33,750 --> 01:07:31,520

you're just uh not quite seeing it's a

1176

01:07:35,829 --> 01:07:33,760

little bit uh more subdued on the spacex

1177

01:07:38,150 --> 01:07:35,839

suit

1178

01:07:40,390 --> 01:07:38,160

so what's the plan when you get to iss

1179

01:07:41,750 --> 01:07:40,400

you are on obviously a test flight this

1180

01:07:43,990 --> 01:07:41,760

isn't a mission so you're not going to

1181

01:07:46,309 --> 01:07:44,000

be spending extended amount periods of

1182

01:07:48,630 --> 01:07:46,319

time in space presumably is it going to

1183

01:07:50,390 --> 01:07:48,640

just be a high five saying hi to the

1184

01:07:51,990 --> 01:07:50,400

crew are you going to do any missions

1185

01:07:53,910 --> 01:07:52,000

for nasa are you going to be testing any

1186

01:07:56,150 --> 01:07:53,920

scientific experiments i guess maybe i

1187

01:07:58,150 --> 01:07:56,160

want to hear from you douglas

1188

01:08:00,069 --> 01:07:58,160

uh i think that's to be determined at

1189

01:08:02,230 --> 01:08:00,079

least on the spacex side the mission

1190

01:08:04,309 --> 01:08:02,240

duration right now we think is somewhere

1191

01:08:05,109 --> 01:08:04,319

in the neighborhood of a few weeks and

1192

01:08:06,630 --> 01:08:05,119

so

1193

01:08:08,150 --> 01:08:06,640

part of that

1194

01:08:09,670 --> 01:08:08,160

you know the the whole purpose of the

1195

01:08:12,150 --> 01:08:09,680

test flight is to ring the vehicle out

1196

01:08:13,990 --> 01:08:12,160

from ascent through docking and then the

1197

01:08:15,829 --> 01:08:14,000

entry descent and landing

1198

01:08:17,269 --> 01:08:15,839

so some of this stuff we're going to

1199

01:08:19,110 --> 01:08:17,279

need to do with the vehicles is going to

1200

01:08:21,030 --> 01:08:19,120

be while we're away from the space

1201
01:08:22,550 --> 01:08:21,040
station obviously we want to make sure

1202
01:08:25,430 --> 01:08:22,560
it docks and undocks with the space

1203
01:08:27,430 --> 01:08:25,440
station and then see how it

1204
01:08:29,110 --> 01:08:27,440
see how it does uh kind of in a

1205
01:08:31,269 --> 01:08:29,120
quiescent mode while it's attached to

1206
01:08:32,950 --> 01:08:31,279
space station so some of those flight

1207
01:08:35,110 --> 01:08:32,960
plans are still being worked and i think

1208
01:08:35,829 --> 01:08:35,120
uh on both sides of the table whether

1209
01:08:38,390 --> 01:08:35,839
it's

1210
01:08:40,070 --> 01:08:38,400
you know nasa boeing and spacex

1211
01:08:41,990 --> 01:08:40,080
to kind of sort out exactly what the

1212
01:08:44,950 --> 01:08:42,000
task is going to be once we're

1213
01:08:47,349 --> 01:08:44,960

attached to space station

1214

01:08:48,870 --> 01:08:47,359

and uh douglas you've been a test pilot

1215

01:08:50,630 --> 01:08:48,880

before um

1216

01:08:51,910 --> 01:08:50,640

tell me about about tell me a little bit

1217

01:08:54,870 --> 01:08:51,920

about what it's like going to be like

1218

01:08:57,829 --> 01:08:54,880

coming back to earth um do you have any

1219

01:08:59,110 --> 01:08:57,839

i guess concern about that is is is that

1220

01:09:00,309 --> 01:08:59,120

something that you've tested for in the

1221

01:09:01,510 --> 01:09:00,319

past

1222

01:09:02,550 --> 01:09:01,520

uh

1223

01:09:05,669 --> 01:09:02,560

actually

1224

01:09:07,510 --> 01:09:05,679

not as a test pilot no i've had two

1225

01:09:09,430 --> 01:09:07,520

re-entries on the space shuttle and the

1226

01:09:11,829 --> 01:09:09,440

re-entry profile for capsules is

1227

01:09:13,349 --> 01:09:11,839

significantly different however i've

1228

01:09:14,950 --> 01:09:13,359

been through a few re-entries so

1229

01:09:16,630 --> 01:09:14,960

obviously that's part of the experience

1230

01:09:19,030 --> 01:09:16,640

base along with

1231

01:09:21,110 --> 01:09:19,040

our experience as test pilots to to kind

1232

01:09:23,510 --> 01:09:21,120

of be there to see how the vehicle

1233

01:09:25,990 --> 01:09:23,520

reacts and then obviously to take action

1234

01:09:27,189 --> 01:09:26,000

if it's needed so part of that you know

1235

01:09:29,590 --> 01:09:27,199

we're going to have to see through

1236

01:09:31,189 --> 01:09:29,600

simulations how the vehicle reacts and

1237

01:09:33,030 --> 01:09:31,199

then i can talk to people that have

1238

01:09:34,630 --> 01:09:33,040

flown on capsules

1239

01:09:37,189 --> 01:09:34,640

sunny williams which was

1240

01:09:38,309 --> 01:09:37,199

also a member of our cadre

1241

01:09:40,229 --> 01:09:38,319

landed

1242

01:09:41,990 --> 01:09:40,239

on soyuz so she's got some capsule

1243

01:09:44,229 --> 01:09:42,000

experience as well as many others in our

1244

01:09:46,309 --> 01:09:44,239

astronaut office so we can pull on that

1245

01:09:48,390 --> 01:09:46,319

experience as well and then

1246

01:09:50,789 --> 01:09:48,400

our test battle experience and then

1247

01:09:52,789 --> 01:09:50,799

obviously the simulations that spacex is

1248

01:09:55,189 --> 01:09:52,799

going to provide with regard to the

1249

01:09:59,510 --> 01:09:56,790

all right well congratulations to you

1250

01:10:02,470 --> 01:09:59,520

all good luck on your test flight and um

1251
01:14:11,590 --> 01:10:02,480
reuters wishes you the very best thank

1252
01:14:27,590 --> 01:14:12,830
take the

1253
01:14:37,910 --> 01:14:28,790
about sometimes seconds away from the

1254
01:14:41,510 --> 01:14:39,830
big announcement from nasa today nasa

1255
01:14:43,590 --> 01:14:41,520
introduced the first u.s astronauts who

1256
01:14:44,790 --> 01:14:43,600
will fly on american-made commercial

1257
01:14:46,550 --> 01:14:44,800
spacecraft

1258
01:14:48,229 --> 01:14:46,560
to and from the international space

1259
01:14:50,149 --> 01:14:48,239
station and it's an endeavor that will

1260
01:14:51,430 --> 01:14:50,159
return astronaut launches to u.s soil

1261
01:14:55,669 --> 01:14:51,440
for the first time since the space

1262
01:14:57,830 --> 01:14:55,679
shuttle of retirement in 2011.

1263
01:14:59,430 --> 01:14:57,840

astronauts to take the crew to crew the

1264

01:15:02,070 --> 01:14:59,440

first test flight to missions on both

1265

01:15:04,310 --> 01:15:02,080

boeing cst 100 starliner and spacex's

1266

01:15:06,229 --> 01:15:04,320

crew dragon okay they had nine we got

1267

01:15:08,070 --> 01:15:06,239

five of them here that's pretty good i

1268

01:15:09,430 --> 01:15:08,080

like that eric bowe charles ferguson

1269

01:15:12,149 --> 01:15:09,440

nicole mann

1270

01:15:14,229 --> 01:15:12,159

bob benkin and doug burley so first let

1271

01:15:15,669 --> 01:15:14,239

me just give you a mass congratulations

1272

01:15:17,510 --> 01:15:15,679

here on this assignment this is

1273

01:15:19,350 --> 01:15:17,520

tremendous you know we live in a part of

1274

01:15:21,669 --> 01:15:19,360

the country here where you guys are such

1275

01:15:23,590 --> 01:15:21,679

heroes to us you know the people that do

1276

01:15:25,750 --> 01:15:23,600

this and and the bravery and the skill

1277

01:15:27,669 --> 01:15:25,760

that it takes a lot of you want to get

1278

01:15:29,270 --> 01:15:27,679

you all in let's start with eric eric

1279

01:15:31,669 --> 01:15:29,280

beau was born in miami grew up in

1280

01:15:34,310 --> 01:15:31,679

atlanta uh piloted the space shuttle

1281

01:15:36,310 --> 01:15:34,320

endeavor for sts 126 and discovery on

1282

01:15:38,870 --> 01:15:36,320

the final flight so you can go ahead and

1283

01:15:41,189 --> 01:15:38,880

take a close-up if you want challenges

1284

01:15:43,270 --> 01:15:41,199

what you expect what you what you hope

1285

01:15:44,630 --> 01:15:43,280

to get this thing going as you proceed

1286

01:15:47,990 --> 01:15:44,640

toward these goals

1287

01:15:51,830 --> 01:15:49,990

you got stepped on could you repeat this

1288

01:15:53,830 --> 01:15:51,840

what do you what are your goals here

1289

01:15:55,750 --> 01:15:53,840

initially in the short term

1290

01:15:58,070 --> 01:15:55,760

the goals for the flight

1291

01:15:59,189 --> 01:15:58,080

are just the goals as we get training

1292

01:16:00,229 --> 01:15:59,199

yes

1293

01:16:01,510 --> 01:16:00,239

that's the goal

1294

01:16:03,350 --> 01:16:01,520

we get training the goals in the

1295

01:16:04,870 --> 01:16:03,360

training for you right right we've done

1296

01:16:06,950 --> 01:16:04,880

a lot we've been working with the the

1297

01:16:08,870 --> 01:16:06,960

cadre for the last three years on the

1298

01:16:10,550 --> 01:16:08,880

vehicle we've seen a lot of changes come

1299

01:16:12,229 --> 01:16:10,560

together to make some really

1300

01:16:14,229 --> 01:16:12,239

revolutionary change but there's still a

1301

01:16:15,990 --> 01:16:14,239

lot of work before we get to flight a

1302

01:16:18,149 --> 01:16:16,000

lot of work for us training-wise we

1303

01:16:19,990 --> 01:16:18,159

we're just starting our training flow

1304

01:16:22,310 --> 01:16:20,000

and there's a lot of work just to

1305

01:16:23,990 --> 01:16:22,320

continue to build the build the uh the

1306

01:16:25,910 --> 01:16:24,000

spaceships to have them ready for first

1307

01:16:27,430 --> 01:16:25,920

flight so really looking forward to

1308

01:16:32,310 --> 01:16:27,440

getting to work and working with the

1309

01:16:35,590 --> 01:16:33,590

christopher ferguson is from

1310

01:16:38,149 --> 01:16:35,600

philadelphia a retired navy captain

1311

01:16:41,669 --> 01:16:38,159

retired in nasa in 2011 has been a part

1312

01:16:44,149 --> 01:16:41,679

of the boeing s cst 100 starliner that

1313

01:16:46,790 --> 01:16:44,159

flow of getting things ready christopher

1314

01:16:48,630 --> 01:16:46,800

uh what give us a sense of the people

1315

01:16:50,470 --> 01:16:48,640

who are not educated on that what does

1316

01:16:52,149 --> 01:16:50,480

that mean exactly what type of things do

1317

01:16:53,430 --> 01:16:52,159

you do to get ready

1318

01:16:54,870 --> 01:16:53,440

so right now we have three different

1319

01:16:56,550 --> 01:16:54,880

vehicles three different spacecraft that

1320

01:16:58,310 --> 01:16:56,560

are under construction at our facility

1321

01:17:00,390 --> 01:16:58,320

in a former orbiter processing building

1322

01:17:02,470 --> 01:17:00,400

out in florida so

1323

01:17:04,310 --> 01:17:02,480

our preparation will include of some

1324

01:17:06,149 --> 01:17:04,320

academic training some simulator

1325

01:17:07,110 --> 01:17:06,159

training and then some time spelled in

1326

01:17:10,310 --> 01:17:07,120

the actual

1327

01:17:12,070 --> 01:17:10,320

uh

1328

01:17:13,830 --> 01:17:12,080

pretty soon we're gonna send one of our

1329

01:17:15,510 --> 01:17:13,840

one of our test spacecraft out to a

1330

01:17:17,669 --> 01:17:15,520

thermal vacuum chamber in el segundo

1331

01:17:18,950 --> 01:17:17,679

california will be out there watching

1332

01:17:20,870 --> 01:17:18,960

every bit of the way so it's a little

1333

01:17:23,590 --> 01:17:20,880

bit of academics and a little bit of

1334

01:17:25,110 --> 01:17:23,600

hands-on experience with uh with actual

1335

01:17:30,790 --> 01:17:25,120

spacecraft that we'll fly in it's a

1336

01:17:35,590 --> 01:17:33,110

core lieutenant colonel uh give us a

1337

01:17:37,510 --> 01:17:35,600

sense of what the competition is for

1338

01:17:38,790 --> 01:17:37,520

these spots how many people

1339

01:17:40,709 --> 01:17:38,800

um

1340

01:17:42,830 --> 01:17:40,719

how many people that you had to beat out

1341

01:17:45,430 --> 01:17:42,840

to get this because these are coveted

1342

01:17:48,070 --> 01:17:45,440

spots uh so it's not so much of a

1343

01:17:50,070 --> 01:17:48,080

competition really you know once you are

1344

01:17:52,149 --> 01:17:50,080

selected and you're an astronaut at nasa

1345

01:17:53,590 --> 01:17:52,159

you train for your initial training for

1346

01:17:55,830 --> 01:17:53,600

the first two years and then you're

1347

01:17:57,590 --> 01:17:55,840

what's called space flight assignable

1348

01:17:59,910 --> 01:17:57,600

and uh you know right now we have soyuz

1349

01:18:01,510 --> 01:17:59,920

we have spacex uh we have boeing and

1350

01:18:03,270 --> 01:18:01,520

soon we're gonna have orion come online

1351

01:18:04,870 --> 01:18:03,280

and there's a lot that goes into which

1352

01:18:07,430 --> 01:18:04,880

flight that you're gonna fly and and

1353

01:18:09,590 --> 01:18:07,440

who's the best fit for for which mission

1354

01:18:11,189 --> 01:18:09,600

uh and i think when you know you are

1355

01:18:13,189 --> 01:18:11,199

fortunate enough to be assigned that

1356

01:18:14,470 --> 01:18:13,199

mission uh you're you're looking forward

1357

01:18:15,669 --> 01:18:14,480

to starting the training flow and you're

1358

01:18:17,430 --> 01:18:15,679

just ready to launch we all really

1359

01:18:18,790 --> 01:18:17,440

support each other in the office i don't

1360

01:18:23,990 --> 01:18:18,800

feel like there's any sort of of a

1361

01:18:27,750 --> 01:18:25,590

robert binkin and douglas hurley want to

1362

01:18:29,510 --> 01:18:27,760

get you both in can you speak to

1363

01:18:31,189 --> 01:18:29,520

uh the people about what it's like to

1364

01:18:33,110 --> 01:18:31,199

see the space program getting some

1365

01:18:35,030 --> 01:18:33,120

momentum in the direction to get back up

1366

01:18:37,350 --> 01:18:35,040

in the heavens again we've got about 45

1367

01:18:39,270 --> 01:18:37,360

seconds left total for both of you okay

1368

01:18:40,950 --> 01:18:39,280

well the the great thing about it for me

1369

01:18:42,790 --> 01:18:40,960

is to actually having seen us go down to

1370

01:18:44,709 --> 01:18:42,800

zero spaceships when we retired the

1371

01:18:46,790 --> 01:18:44,719

space shuttle it's just awesome to see

1372

01:18:48,550 --> 01:18:46,800

uh three coming online right now with

1373

01:18:50,630 --> 01:18:48,560

the boeing vehicle the dragon vehicle

1374

01:18:53,110 --> 01:18:50,640

and orion as we go forward it's just an

1375

01:18:54,470 --> 01:18:53,120

awesome time to be an astronaut

1376

01:18:56,550 --> 01:18:54,480

yeah to get

1377

01:18:58,310 --> 01:18:56,560

uh us spacecraft launching from florida

1378

01:19:00,310 --> 01:18:58,320

again i think we're all really excited

1379

01:19:02,470 --> 01:19:00,320

to be part of that and uh we're excited

1380

01:19:07,030 --> 01:19:02,480

for the rest of the rest of the country

1381

01:19:10,950 --> 01:19:09,430

uh well hey again you guys are heroes to

1382

01:19:12,070 --> 01:19:10,960

us we know we're testing your patients

1383

01:19:13,750 --> 01:19:12,080

when you're doing a thousand of these

1384

01:19:15,590 --> 01:19:13,760

interviews over the course of the day

1385

01:19:17,990 --> 01:19:15,600

thank you for doing this we appreciate

1386

01:19:19,430 --> 01:19:18,000

it we love to see you guys on television

1387

01:24:02,149 --> 01:19:19,440

thank you very much thank you for the

1388

01:24:02,159 --> 01:24:05,590

all right terrific

1389

01:24:09,750 --> 01:24:07,910

hi there thanks so much for uh for

1390

01:24:12,550 --> 01:24:09,760

taking the time michael greshko here

1391

01:24:16,070 --> 01:24:12,560

from national geographic um

1392

01:24:17,830 --> 01:24:16,080

my my first question for all of you um

1393

01:24:19,350 --> 01:24:17,840

is that now that we're a few hours

1394

01:24:21,750 --> 01:24:19,360

removed from the announcement this

1395

01:24:24,149 --> 01:24:21,760

morning how much has it set in that this

1396

01:24:29,510 --> 01:24:24,159

time next year you all may well be on

1397

01:24:34,149 --> 01:24:31,830

well i i would say that uh for me it's

1398

01:24:35,830 --> 01:24:34,159

definitely set in but uh the road has

1399

01:24:37,669 --> 01:24:35,840

kind of been a long one so it's been

1400

01:24:39,350 --> 01:24:37,679

it's while folks are just seeing it for

1401

01:24:41,189 --> 01:24:39,360

the first time today maybe in terms of

1402

01:24:43,430 --> 01:24:41,199

the uh the assignments kind of jumping

1403

01:24:45,350 --> 01:24:43,440

out there we all started this journey

1404

01:24:47,430 --> 01:24:45,360

years ago kind of working with uh both

1405

01:24:49,990 --> 01:24:47,440

providers at least on the nasa side i

1406

01:24:52,310 --> 01:24:50,000

know chris ferguson of course his uh his

1407

01:24:54,870 --> 01:24:52,320

fate with the boeing company was kind of

1408

01:24:56,629 --> 01:24:54,880

sealed if you will but i think for us

1409

01:24:58,149 --> 01:24:56,639

it's just really exciting to be able to

1410

01:24:59,750 --> 01:24:58,159

share what's been going on with the

1411

01:25:01,590 --> 01:24:59,760

commercial crew program and get

1412

01:25:03,030 --> 01:25:01,600

everybody else kind of focused on what

1413

01:25:04,870 --> 01:25:03,040

we're going to accomplish over the next

1414

01:25:06,629 --> 01:25:04,880

year or so that's really the excitement

1415

01:25:08,470 --> 01:25:06,639

that's out there for me and having folks

1416

01:25:10,950 --> 01:25:08,480

that i've known for years reach out to

1417

01:25:12,550 --> 01:25:10,960

me and congratulate me today

1418

01:25:15,430 --> 01:25:12,560

kind of to reinvigorate them has just

1419

01:25:16,310 --> 01:25:15,440

been just been awesome

1420

01:25:17,430 --> 01:25:16,320

and and

1421

01:25:19,910 --> 01:25:17,440

to

1422

01:25:21,669 --> 01:25:19,920

reiterate from um comments that

1423

01:25:22,550 --> 01:25:21,679

administrator bridenstine made earlier

1424

01:25:24,870 --> 01:25:22,560

today

1425

01:25:27,590 --> 01:25:24,880

you know the commercial crew program

1426

01:25:30,390 --> 01:25:27,600

will be bringing

1427

01:25:32,950 --> 01:25:30,400

launches for u.s astronauts back to u.s

1428

01:25:35,189 --> 01:25:32,960

soil on u.s aircraft

1429

01:25:39,510 --> 01:25:35,199

what does that mean for you all and what

1430

01:25:43,350 --> 01:25:40,790

well it means a lot of great things for

1431

01:25:44,629 --> 01:25:43,360

the country having the opportunity but

1432

01:25:46,229 --> 01:25:44,639

right now we have not only those two

1433

01:25:47,669 --> 01:25:46,239

vehicles but orion so we actually have

1434

01:25:49,669 --> 01:25:47,679

three spaceships that are in the works

1435

01:25:51,510 --> 01:25:49,679

and having the opportunity to get to

1436

01:25:52,950 --> 01:25:51,520

test and fly one of these vehicles is

1437

01:25:54,790 --> 01:25:52,960

going to be

1438

01:25:56,790 --> 01:25:54,800

very exciting and it's an important time

1439

01:25:58,950 --> 01:25:56,800

because this gives us the capability

1440

01:26:00,629 --> 01:25:58,960

these new commercial vehicles will not

1441

01:26:03,590 --> 01:26:00,639

only fly nasa missions but they'll also

1442

01:26:05,510 --> 01:26:03,600

go out and fly with other groups

1443

01:26:07,270 --> 01:26:05,520

universities other countries

1444

01:26:09,669 --> 01:26:07,280

uh you know have the ability to bring in

1445

01:26:14,950 --> 01:26:09,679

other uh folks to come into the space

1446

01:26:19,189 --> 01:26:16,390

thank you um

1447

01:26:21,270 --> 01:26:19,199

and so and this question for all of you

1448

01:26:23,110 --> 01:26:21,280

based on the training and simulations

1449

01:26:24,870 --> 01:26:23,120

that you all have done so far

1450

01:26:26,470 --> 01:26:24,880

you know getting down to brass tacks

1451

01:26:28,470 --> 01:26:26,480

what's it going to be like to pilot

1452

01:26:29,590 --> 01:26:28,480

these spacecraft i mean how will they

1453

01:26:32,950 --> 01:26:29,600

compare

1454

01:26:35,910 --> 01:26:32,960

to the space shuttle or soyuz

1455

01:26:38,550 --> 01:26:35,920

uh it's a great question you know uh the

1456

01:26:39,990 --> 01:26:38,560

the shuttle was developed in the 1970s

1457

01:26:41,510 --> 01:26:40,000

so the

1458

01:26:44,149 --> 01:26:41,520

crew interface with the shuttle could

1459

01:26:45,110 --> 01:26:44,159

sometimes be pretty complicated i would

1460

01:26:46,310 --> 01:26:45,120

i would say

1461

01:26:48,310 --> 01:26:46,320

probably the best way to describe it

1462

01:26:49,430 --> 01:26:48,320

over 2000 switches and circuit breakers

1463

01:26:51,030 --> 01:26:49,440

in the vehicle

1464

01:26:52,390 --> 01:26:51,040

and it was pretty tough for one person

1465

01:26:54,629 --> 01:26:52,400

to just keep track of everything that

1466

01:26:57,270 --> 01:26:54,639

was going on and

1467

01:26:59,669 --> 01:26:57,280

these vehicles i think leveraged

1468

01:27:00,709 --> 01:26:59,679

30 or 40 years of technology development

1469

01:27:03,750 --> 01:27:00,719

since then

1470

01:27:05,750 --> 01:27:03,760

and then i think increased emphasis on

1471

01:27:07,990 --> 01:27:05,760

error trapping and

1472

01:27:10,310 --> 01:27:08,000

just the crew vehicle interface to make

1473

01:27:12,470 --> 01:27:10,320

it more intuitive and easier

1474

01:27:15,669 --> 01:27:12,480

and then obviously on top of that is

1475

01:27:17,590 --> 01:27:15,679

some autonomy capability capability

1476
01:27:19,750 --> 01:27:17,600
throughout almost the entire envelope

1477
01:27:22,229 --> 01:27:19,760
for those vehicles so

1478
01:27:23,910 --> 01:27:22,239
they hopefully will be much simpler to

1479
01:27:26,709 --> 01:27:23,920
fly than the space shuttle much easier

1480
01:27:28,310 --> 01:27:26,719
to fly than the space shuttle and

1481
01:27:30,629 --> 01:27:28,320
you know the plan with this program is

1482
01:27:32,229 --> 01:27:30,639
to have a safe reliable

1483
01:27:34,709 --> 01:27:32,239
resource to get us to and from space

1484
01:27:40,070 --> 01:27:37,590
um and on that note the question for

1485
01:27:41,750 --> 01:27:40,080
nicole um this will be your first space

1486
01:27:43,669 --> 01:27:41,760
flight but you're an experienced test

1487
01:27:45,669 --> 01:27:43,679
pilot you know what'll be going through

1488
01:27:47,750 --> 01:27:45,679

your head as you put starliner through

1489

01:27:48,550 --> 01:27:47,760

its paces and and for a vehicle like

1490

01:27:50,229 --> 01:27:48,560

this

1491

01:27:52,870 --> 01:27:50,239

you know what does you know putting it

1492

01:27:54,629 --> 01:27:52,880

through its paces actually look like

1493

01:27:56,149 --> 01:27:54,639

well really it starts you know it starts

1494

01:27:57,990 --> 01:27:56,159

on monday when we start training and

1495

01:27:59,910 --> 01:27:58,000

there's a lot of testing and development

1496

01:28:00,950 --> 01:27:59,920

to still be done with this vehicle we

1497

01:28:02,390 --> 01:28:00,960

need to figure out how we're going to

1498

01:28:04,310 --> 01:28:02,400

operate it how we're going to

1499

01:28:05,750 --> 01:28:04,320

communicate with the ground and what our

1500

01:28:07,750 --> 01:28:05,760

roles and responsibilities are going to

1501
01:28:09,350 --> 01:28:07,760
be so so going through that process is

1502
01:28:10,709 --> 01:28:09,360
going to be great and then when we have

1503
01:28:12,790 --> 01:28:10,719
the opportunity to launch to fly the

1504
01:28:15,030 --> 01:28:12,800
mission and then return safely here to

1505
01:28:17,430 --> 01:28:15,040
earth we'll be checking out all of those

1506
01:28:23,270 --> 01:28:17,440
systems

1507
01:28:27,430 --> 01:28:25,350
uh bob doug does that

1508
01:28:29,990 --> 01:28:27,440
does that uh resonate for you with crew

1509
01:28:34,070 --> 01:28:32,310
it absolutely does i think we're in a

1510
01:28:35,669 --> 01:28:34,080
slightly different mode than uh than

1511
01:28:37,350 --> 01:28:35,679
nicole is because we've been you know

1512
01:28:39,270 --> 01:28:37,360
participating with both of the partners

1513
01:28:41,750 --> 01:28:39,280

for a little bit deeper and a little bit

1514

01:28:43,910 --> 01:28:41,760

longer than than she has but uh we're

1515

01:28:46,229 --> 01:28:43,920

definitely participating you know we've

1516

01:28:47,510 --> 01:28:46,239

got events lined up uh over the next

1517

01:28:49,590 --> 01:28:47,520

month where we either travel to

1518

01:28:51,430 --> 01:28:49,600

hawthorne or we travel down to florida

1519

01:28:54,390 --> 01:28:51,440

to kind of both keep track tabs on the

1520

01:28:56,550 --> 01:28:54,400

vehicle and do what training that we can

1521

01:28:57,430 --> 01:28:56,560

at this point you know as with any test

1522

01:28:59,189 --> 01:28:57,440

program

1523

01:29:01,750 --> 01:28:59,199

we'll probably be fully trained very

1524

01:29:03,669 --> 01:29:01,760

close to the launch date because uh

1525

01:29:05,510 --> 01:29:03,679

you'll we'll continue to evolve and

1526

01:29:07,590 --> 01:29:05,520

we'll continue to you know make it as

1527

01:29:09,590 --> 01:29:07,600

optimal as we as we possibly can right

1528

01:29:11,430 --> 01:29:09,600

up until the last minute but

1529

01:29:13,350 --> 01:29:11,440

definitely uh really looking forward to

1530

01:29:17,750 --> 01:29:13,360

it and our and our schedules are gonna

1531

01:29:22,629 --> 01:29:18,629

uh

1532

01:29:24,870 --> 01:29:22,639

but particularly chris chris you're

1533

01:29:26,870 --> 01:29:24,880

going up as a private astronaut

1534

01:29:28,070 --> 01:29:26,880

representing boeing kind of a first of

1535

01:29:30,790 --> 01:29:28,080

your kind

1536

01:29:33,189 --> 01:29:30,800

position um now and in the years to come

1537

01:29:35,510 --> 01:29:33,199

how do you all see you know a private

1538

01:29:37,510 --> 01:29:35,520

astronaut corps interfacing with

1539

01:29:40,070 --> 01:29:37,520

astronauts from public space agencies

1540

01:29:42,149 --> 01:29:40,080

such as nasa yeah it's a great question

1541

01:29:44,470 --> 01:29:42,159

uh no i've i've had the opportunity to

1542

01:29:46,229 --> 01:29:44,480

work with uh just about everybody uh on

1543

01:29:48,470 --> 01:29:46,239

the stage here and

1544

01:29:50,310 --> 01:29:48,480

so when when we launch it's gonna be a

1545

01:29:52,470 --> 01:29:50,320

crew concept right it's a it'll be a

1546

01:29:53,910 --> 01:29:52,480

badges environment for us but the

1547

01:29:57,350 --> 01:29:53,920

question is what is the uh what does the

1548

01:29:59,110 --> 01:29:57,360

future hold uh it very interesting um

1549

01:30:01,270 --> 01:29:59,120

you know right now we sort of serve our

1550

01:30:03,590 --> 01:30:01,280

flagship customer which is nasa

1551

01:30:06,629 --> 01:30:03,600

uh but after that what will come if we

1552

01:30:09,669 --> 01:30:06,639

build it will we develop a customer base

1553

01:30:11,990 --> 01:30:09,679

for say space tourism tourism uh perhaps

1554

01:30:13,590 --> 01:30:12,000

countries that are interested in in uh

1555

01:30:15,750 --> 01:30:13,600

but don't have the infrastructure but

1556

01:30:18,390 --> 01:30:15,760

are interested in forming uh a small

1557

01:30:19,750 --> 01:30:18,400

space program of their own so i i think

1558

01:30:21,510 --> 01:30:19,760

we're sort of at the we're at the

1559

01:30:23,910 --> 01:30:21,520

threshold of

1560

01:30:25,270 --> 01:30:23,920

just like commercial air travel was 100

1561

01:30:26,790 --> 01:30:25,280

years ago we're at the threshold of

1562

01:30:31,430 --> 01:30:26,800

commercial space travel and what will it

1563

01:30:35,669 --> 01:30:33,189

great thank you um

1564

01:30:37,669 --> 01:30:35,679

you know kind of on that front um

1565

01:30:39,750 --> 01:30:37,679

you know as you alluded to the first big

1566

01:30:41,510 --> 01:30:39,760

push here is uh

1567

01:30:43,270 --> 01:30:41,520

to for commercial crews to shuttle

1568

01:30:44,950 --> 01:30:43,280

astronauts you know

1569

01:30:48,149 --> 01:30:44,960

to and from the international space

1570

01:30:50,709 --> 01:30:48,159

station but you know beyond the 2020s

1571

01:30:52,310 --> 01:30:50,719

what kind of human presence do you think

1572

01:30:55,110 --> 01:30:52,320

there's going to be

1573

01:30:56,790 --> 01:30:55,120

in low earth orbit and how do you see

1574

01:31:00,229 --> 01:30:56,800

commercial crew kind of serving that

1575

01:31:02,870 --> 01:31:01,510

right

1576

01:31:03,990 --> 01:31:02,880

you can see that

1577

01:31:06,470 --> 01:31:04,000

low earth orbit it's going to be

1578

01:31:08,870 --> 01:31:06,480

interesting to see how it uh plays out

1579

01:31:10,470 --> 01:31:08,880

but having two vehicles that we can you

1580

01:31:12,310 --> 01:31:10,480

know two different vehicles to work with

1581

01:31:14,629 --> 01:31:12,320

with low earth orbit the goal is to get

1582

01:31:16,550 --> 01:31:14,639

it so the axis is easy and that's part

1583

01:31:18,709 --> 01:31:16,560

of these ships is to make it make it

1584

01:31:21,430 --> 01:31:18,719

simpler faster more affordable to get

1585

01:31:23,990 --> 01:31:21,440

into orbit and then i think it will be

1586

01:31:25,830 --> 01:31:24,000

all kinds of things that will you know

1587

01:31:28,070 --> 01:31:25,840

it's hard to actually tell but as time

1588

01:31:29,350 --> 01:31:28,080

goes on we'll actually uh see a lot of

1589

01:31:34,390 --> 01:31:29,360

things grow out of that just by having

1590

01:31:40,229 --> 01:31:38,310

um and it's it's no secret that um

1591

01:31:41,590 --> 01:31:40,239

that it's been kind of a winding road to

1592

01:31:43,910 --> 01:31:41,600

get to this point there have been a

1593

01:31:45,750 --> 01:31:43,920

couple years of delays

1594

01:31:47,430 --> 01:31:45,760

you know what should the general public

1595

01:31:49,750 --> 01:31:47,440

make of those kinds of delays and as

1596

01:31:51,750 --> 01:31:49,760

test pilots in this kind of program

1597

01:31:54,790 --> 01:31:51,760

how much is that kind of rescheduling

1598

01:31:58,550 --> 01:31:56,470

i guess i would i'd kind of jump out

1599

01:32:00,550 --> 01:31:58,560

there a couple years ago i had a house

1600

01:32:02,390 --> 01:32:00,560

built and uh there are significant

1601
01:32:04,790 --> 01:32:02,400
challenges even with an experience a

1602
01:32:06,310 --> 01:32:04,800
contractor getting a house built and you

1603
01:32:07,830 --> 01:32:06,320
know folks build houses all the time

1604
01:32:09,590 --> 01:32:07,840
that but we had a lot of difficulty

1605
01:32:11,669 --> 01:32:09,600
getting one done on schedule

1606
01:32:13,830 --> 01:32:11,679
spacecraft quite a bit more complicated

1607
01:32:15,270 --> 01:32:13,840
than that and i expect you know really

1608
01:32:17,350 --> 01:32:15,280
what i would like the public to take

1609
01:32:18,310 --> 01:32:17,360
away from this is that i wouldn't say

1610
01:32:20,709 --> 01:32:18,320
that there's something that we've

1611
01:32:22,310 --> 01:32:20,719
identified necessarily that is super

1612
01:32:23,270 --> 01:32:22,320
unsafe whenever there is a scheduled

1613
01:32:25,270 --> 01:32:23,280

delay

1614

01:32:27,750 --> 01:32:25,280

but what we are doing is making these

1615

01:32:30,229 --> 01:32:27,760

vehicles as a as safe as we possibly can

1616

01:32:31,750 --> 01:32:30,239

as as we kind of go forward and so that

1617

01:32:33,750 --> 01:32:31,760

safety aspect

1618

01:32:35,590 --> 01:32:33,760

is really the fundamental reason why the

1619

01:32:37,910 --> 01:32:35,600

the schedule ends up being so challenged

1620

01:32:39,990 --> 01:32:37,920

because when we do find something we we

1621

01:32:42,149 --> 01:32:40,000

do need to address it we we typically

1622

01:32:44,229 --> 01:32:42,159

don't just uh ignore that and say hey

1623

01:32:45,830 --> 01:32:44,239

that's a risk that's out there we uh we

1624

01:32:47,590 --> 01:32:45,840

typically try to address it if it's

1625

01:32:49,270 --> 01:32:47,600

something that was unforeseen get that

1626

01:32:51,510 --> 01:32:49,280

cropped up in testing or cropped up in

1627

01:32:52,950 --> 01:32:51,520

some place in the development cycle so i

1628

01:32:54,149 --> 01:32:52,960

would like them to really focus on

1629

01:32:58,229 --> 01:32:54,159

safety when they when they see those

1630

01:33:02,950 --> 01:33:00,550

gotcha thank you um

1631

01:33:05,510 --> 01:33:02,960

the the last u.s seat on soyuz as of

1632

01:33:07,350 --> 01:33:05,520

right now is scheduled to return

1633

01:33:09,990 --> 01:33:07,360

next november

1634

01:33:10,950 --> 01:33:10,000

if there are any more sort of delays

1635

01:33:17,030 --> 01:33:10,960

how

1636

01:33:22,070 --> 01:33:17,040

should we be about interrupting u.s

1637

01:33:25,750 --> 01:33:23,910

i think we we definitely do need to

1638

01:33:27,270 --> 01:33:25,760

continue to maintain our presence on

1639

01:33:29,350 --> 01:33:27,280

board the international space station

1640

01:33:31,669 --> 01:33:29,360

for folks that follow it closely you'll

1641

01:33:32,470 --> 01:33:31,679

see that we do have failures from a time

1642

01:33:34,390 --> 01:33:32,480

and

1643

01:33:36,470 --> 01:33:34,400

time to time where we do need to swap

1644

01:33:38,950 --> 01:33:36,480

out a critical piece of hardware to

1645

01:33:41,030 --> 01:33:38,960

preserve that orbiting laboratory and so

1646

01:33:43,430 --> 01:33:41,040

whether it's a pump module or a piece of

1647

01:33:45,110 --> 01:33:43,440

electronic component we we definitely do

1648

01:33:47,030 --> 01:33:45,120

need to swap that hardware out and that

1649

01:33:48,390 --> 01:33:47,040

takes a takes a crew it takes care and

1650

01:33:50,629 --> 01:33:48,400

feeding to keep the space station

1651
01:33:52,310 --> 01:33:50,639
healthy and operating and so anytime

1652
01:33:54,629 --> 01:33:52,320
that we don't have access we'll be

1653
01:33:57,510 --> 01:33:54,639
putting that uh

1654
01:33:59,990 --> 01:33:57,520
100 billion dollar asset uh at risk and

1655
01:34:01,590 --> 01:34:00,000
so i just uh look at it as a as critical

1656
01:34:04,070 --> 01:34:01,600
i think that we all do and i think it's

1657
01:34:05,669 --> 01:34:04,080
a one of the reasons that on the on the

1658
01:34:07,350 --> 01:34:05,679
commercial crew program side there's

1659
01:34:08,870 --> 01:34:07,360
there's been talk about even extending

1660
01:34:11,270 --> 01:34:08,880
one of the early missions if we found

1661
01:34:12,790 --> 01:34:11,280
ourselves in that situation

1662
01:34:20,070 --> 01:34:12,800
um

1663
01:34:22,229 --> 01:34:20,080

question for you you've been uh

1664

01:34:24,709 --> 01:34:22,239

extremely generous with your um with

1665

01:34:26,709 --> 01:34:24,719

your time you know all day today

1666

01:34:29,110 --> 01:34:26,719

fielding not just my questions but

1667

01:34:31,030 --> 01:34:29,120

questions from everyone everywhere are

1668

01:34:32,950 --> 01:34:31,040

there any questions that you kind of

1669

01:34:34,310 --> 01:34:32,960

wish that somebody would ask you at this

1670

01:34:36,390 --> 01:34:34,320

moment

1671

01:34:43,510 --> 01:34:36,400

that that no one has yet

1672

01:34:43,520 --> 01:34:49,590

when are you going to be done

1673

01:34:53,910 --> 01:34:52,229

no just kidding no i think it's been

1674

01:34:57,030 --> 01:34:53,920

it's been

1675

01:34:58,629 --> 01:34:57,040

exciting day

1676

01:35:00,229 --> 01:34:58,639

not only for us but i think for the

1677

01:35:01,510 --> 01:35:00,239

agency for the country for these

1678

01:35:04,709 --> 01:35:01,520

companies

1679

01:35:07,189 --> 01:35:04,719

uh and and we're just i think honestly

1680

01:35:09,350 --> 01:35:07,199

we're happy to be here and we're proud

1681

01:35:10,550 --> 01:35:09,360

to serve i think as we say quite a bit

1682

01:35:11,990 --> 01:35:10,560

but uh

1683

01:35:14,070 --> 01:35:12,000

i think we've been asked a lot of

1684

01:35:16,390 --> 01:35:14,080

questions today and i think we have some

1685

01:35:19,910 --> 01:35:16,400

more to go but we're happy to do it and

1686

01:35:22,870 --> 01:35:19,920

it's it's a privilege to be here

1687

01:35:25,750 --> 01:35:22,880

and and one last question for you all um

1688

01:35:28,390 --> 01:35:25,760

you know as uh as as robots become more

1689

01:35:29,750 --> 01:35:28,400

and more capable um you know some people

1690

01:35:31,750 --> 01:35:29,760

have raised the question whether we

1691

01:35:34,310 --> 01:35:31,760

really do need to be sending human crews

1692

01:35:36,070 --> 01:35:34,320

out you know into low earth orbit and

1693

01:35:38,550 --> 01:35:36,080

solar system and maybe even beyond to

1694

01:35:42,149 --> 01:35:38,560

explore uh for you all why is it

1695

01:35:44,390 --> 01:35:42,159

important that as humankind you know

1696

01:35:49,189 --> 01:35:44,400

ventures out beyond earth that there's a

1697

01:35:53,189 --> 01:35:51,350

you know it's important to keep a human

1698

01:35:55,350 --> 01:35:53,199

in the loop i think it's going to be

1699

01:35:57,189 --> 01:35:55,360

really a partnership between robotics

1700

01:35:59,750 --> 01:35:57,199

and rovers and humans that are out there

1701

01:36:01,830 --> 01:35:59,760

exploring and that's going to expand our

1702

01:36:04,149 --> 01:36:01,840

capability so for instance if i'm on the

1703

01:36:06,470 --> 01:36:04,159

surface of mars i may have three or four

1704

01:36:09,030 --> 01:36:06,480

robots or rovers with me and that will

1705

01:36:11,350 --> 01:36:09,040

expand the area that i can then see but

1706

01:36:13,030 --> 01:36:11,360

we don't have artificial intelligence

1707

01:36:15,109 --> 01:36:13,040

developed enough to this point to make a

1708

01:36:17,590 --> 01:36:15,119

real-time call on in my entire

1709

01:36:19,430 --> 01:36:17,600

environment and use my training to know

1710

01:36:21,750 --> 01:36:19,440

what i need to be looking at or how to

1711

01:36:23,590 --> 01:36:21,760

respond to a situation so i think we'll

1712

01:36:26,550 --> 01:36:23,600

continue to have humans in the loop and

1713

01:36:28,310 --> 01:36:26,560

i think that the robotic capability that

1714

01:36:30,070 --> 01:36:28,320

will add to us will just make us even

1715

01:36:31,750 --> 01:36:30,080

stronger

1716

01:36:34,470 --> 01:36:31,760

terrific well thank you all so much for

1717

01:36:36,629 --> 01:36:34,480

your time congratulations um

1718

01:48:03,590 --> 01:36:36,639

thanks again have a good one thank you

1719

01:48:03,600 --> 01:48:12,870

oh great

1720

01:48:20,550 --> 01:48:15,750

okay it's so great to see you all

1721

01:48:23,669 --> 01:48:22,310

hello hi amanda

1722

01:48:26,550 --> 01:48:23,679

i'd love to have you all introduce

1723

01:48:28,629 --> 01:48:26,560

yourselves if you don't mind

1724

01:48:29,669 --> 01:48:28,639

i'm chris ferguson i work for the boeing

1725

01:48:31,109 --> 01:48:29,679

company

1726

01:48:32,229 --> 01:48:31,119

i'm nicole mann

1727

01:48:33,510 --> 01:48:32,239

eric paul

1728

01:48:38,550 --> 01:48:33,520

bob benkin

1729

01:48:43,669 --> 01:48:41,109

well it's great to have you all here uh

1730

01:48:45,669 --> 01:48:43,679

i'll just have you all or one of you

1731

01:48:47,430 --> 01:48:45,679

jump in on these questions as you see

1732

01:48:49,189 --> 01:48:47,440

fit i know you've been doing this all

1733

01:48:50,229 --> 01:48:49,199

day so i'm sure you're pros at this

1734

01:48:52,790 --> 01:48:50,239

point

1735

01:48:53,910 --> 01:48:52,800

so first of all this is really exciting

1736

01:48:55,669 --> 01:48:53,920

how does it feel to be the first

1737

01:48:58,070 --> 01:48:55,679

american astronauts

1738

01:49:01,990 --> 01:48:58,080

chosen to fly in these new commercial

1739

01:49:05,030 --> 01:49:03,590

for me it's a it's pretty awesome i

1740

01:49:06,629 --> 01:49:05,040

think all of us who when we went through

1741

01:49:08,310 --> 01:49:06,639

our test pilot school class thought that

1742

01:49:10,070 --> 01:49:08,320

the probably the greatest job we could

1743

01:49:12,470 --> 01:49:10,080

ever get would be to be a part of a new

1744

01:49:14,390 --> 01:49:12,480

uh test airplane program and you turn

1745

01:49:15,990 --> 01:49:14,400

that into a spacecraft instead of an

1746

01:49:17,910 --> 01:49:16,000

airplane and it just makes it that much

1747

01:49:19,910 --> 01:49:17,920

better and so it's probably the coolest

1748

01:49:25,589 --> 01:49:19,920

thing we could have got uh from a job

1749

01:49:31,430 --> 01:49:26,709

tell me a little bit more about your

1750

01:49:34,709 --> 01:49:33,030

well the plans for the missions are to

1751

01:49:37,030 --> 01:49:34,719

shake out you know both

1752

01:49:38,470 --> 01:49:37,040

both groups we're going to shake out

1753

01:49:40,229 --> 01:49:38,480

each of the vehicles individually to

1754

01:49:41,589 --> 01:49:40,239

make sure that they can

1755

01:49:43,350 --> 01:49:41,599

basically do their mission we're going

1756

01:49:44,870 --> 01:49:43,360

to be looking at all you know all the

1757

01:49:47,430 --> 01:49:44,880

different phases of flight of the

1758

01:49:49,109 --> 01:49:47,440

spaceship and as bob was talking about

1759

01:49:51,510 --> 01:49:49,119

it's it's a privilege to get the chance

1760

01:49:52,629 --> 01:49:51,520

to as a test pilot you dream about

1761

01:49:54,229 --> 01:49:52,639

getting the opportunity to test

1762

01:50:00,310 --> 01:49:54,239

something new and testing a spacecraft

1763

01:50:04,229 --> 01:50:02,229

can you tell us a little bit about some

1764

01:50:05,669 --> 01:50:04,239

of the research that's happening up in

1765

01:50:12,070 --> 01:50:05,679

space that

1766

01:50:15,589 --> 01:50:13,830

well i i think the from a research

1767

01:50:17,430 --> 01:50:15,599

perspective there's just a

1768

01:50:18,790 --> 01:50:17,440

hundreds of experience experiments

1769

01:50:20,550 --> 01:50:18,800

literally going on on board the

1770

01:50:22,310 --> 01:50:20,560

international space station at any time

1771

01:50:24,629 --> 01:50:22,320

whether it's uh investigating

1772

01:50:26,390 --> 01:50:24,639

investigating combustion phenomenology

1773

01:50:28,229 --> 01:50:26,400

where somebody predicts what they expect

1774

01:50:29,750 --> 01:50:28,239

to happen as you take away gravity from

1775

01:50:31,270 --> 01:50:29,760

the equation and then they get to test

1776

01:50:33,189 --> 01:50:31,280

it out and see if that was really true

1777

01:50:35,109 --> 01:50:33,199

or not and they can anchor their models

1778

01:50:37,109 --> 01:50:35,119

for the for the work that they do back

1779

01:50:38,709 --> 01:50:37,119

here on earth you know that's true in

1780

01:50:41,189 --> 01:50:38,719

just so many different fields from

1781

01:50:42,950 --> 01:50:41,199

combustion to metallurgy to the the

1782

01:50:44,709 --> 01:50:42,960

physical sciences

1783

01:50:46,550 --> 01:50:44,719

we're also testing on the astronauts

1784

01:50:48,790 --> 01:50:46,560

themselves and learning how to live and

1785

01:50:50,870 --> 01:50:48,800

operate in space and how the human body

1786

01:50:53,350 --> 01:50:50,880

adapts for future missions that may be

1787

01:51:00,070 --> 01:50:53,360

longer or may take us you know

1788

01:51:03,350 --> 01:51:01,430

christopher i know you mentioned that

1789

01:51:06,390 --> 01:51:03,360

you're with boeing i know you retired

1790

01:51:08,790 --> 01:51:06,400

from nasa uh you've been working on the

1791

01:51:10,310 --> 01:51:08,800

starliner what can you tell us a bit

1792

01:51:12,310 --> 01:51:10,320

about the starlight we've got boeing in

1793

01:51:14,709 --> 01:51:12,320

our backyard so we've got a personal

1794

01:51:15,990 --> 01:51:14,719

interest in the starliner

1795

01:51:18,629 --> 01:51:16,000

well i've been a part of the program

1796

01:51:21,510 --> 01:51:18,639

since about 2012. so i've i've had the

1797

01:51:23,750 --> 01:51:21,520

opportunity to see it grow from just a

1798

01:51:25,910 --> 01:51:23,760

clean sheet design up to uh we're now

1799

01:51:27,510 --> 01:51:25,920

building uh three different spacecraft

1800

01:51:29,350 --> 01:51:27,520

that we'll reuse up to 10 times we're

1801
01:51:30,629 --> 01:51:29,360
building them in florida

1802
01:51:32,709 --> 01:51:30,639
but as you mentioned we're part of the

1803
01:51:34,709 --> 01:51:32,719
larger boeing family so

1804
01:51:36,629 --> 01:51:34,719
we'll uh we'll see what commercial space

1805
01:51:38,310 --> 01:51:36,639
is all about as we go forward you know

1806
01:51:40,709 --> 01:51:38,320
this opportunity this unique opportunity

1807
01:51:43,350 --> 01:51:40,719
to to essentially lease a service and

1808
01:51:45,750 --> 01:51:43,360
then uh perhaps grow that business into

1809
01:51:51,350 --> 01:51:45,760
something that uh that we we can't even

1810
01:51:54,629 --> 01:51:53,030
nicole i know this is going to be your

1811
01:51:56,629 --> 01:51:54,639
first trip

1812
01:51:59,589 --> 01:51:56,639
to space

1813
01:52:01,109 --> 01:51:59,599

so what are you looking forward to

1814

01:52:03,510 --> 01:52:01,119

well for me you know this is an

1815

01:52:05,750 --> 01:52:03,520

opportunity of a lifetime uh to go to

1816

01:52:07,990 --> 01:52:05,760

space number one and then number two to

1817

01:52:10,950 --> 01:52:08,000

to be a part of these crews and to fly

1818

01:52:12,550 --> 01:52:10,960

on the first uh vehicle of starliner so

1819

01:52:14,310 --> 01:52:12,560

i'm looking forward to the training i'm

1820

01:52:16,229 --> 01:52:14,320

looking forward to helping where i can

1821

01:52:18,070 --> 01:52:16,239

to develop the techniques and procedures

1822

01:52:20,629 --> 01:52:18,080

that we'll need to operate in space and

1823

01:52:22,310 --> 01:52:20,639

then certainly for the mission i feel

1824

01:52:24,390 --> 01:52:22,320

very fortunate to get to uh train and

1825

01:52:26,070 --> 01:52:24,400

fly among these two gentlemen who have a

1826
01:52:27,910 --> 01:52:26,080
vast amount of space flight experience

1827
01:52:33,669 --> 01:52:27,920
and i'm hoping to learn a lot from them

1828
01:52:37,830 --> 01:52:35,109
i think a lot of us want to know if some

1829
01:52:40,070 --> 01:52:37,840
of these test flights get us closer to

1830
01:52:41,270 --> 01:52:40,080
sending passenger

1831
01:52:43,910 --> 01:52:41,280
uh

1832
01:52:46,070 --> 01:52:43,920
flights to space

1833
01:52:46,870 --> 01:52:46,080
i certainly think that's the case i mean

1834
01:52:50,709 --> 01:52:46,880
this

1835
01:52:51,669 --> 01:52:50,719
combine the government and the private

1836
01:52:53,669 --> 01:52:51,679
sector

1837
01:52:56,870 --> 01:52:53,679
to uh

1838
01:52:59,750 --> 01:52:56,880

make access to spake space easier and

1839

01:53:02,149 --> 01:52:59,760

less expensive and so the next the next

1840

01:53:04,390 --> 01:53:02,159

logical step may be you know private

1841

01:53:05,830 --> 01:53:04,400

citizens or scientists or smaller

1842

01:53:06,629 --> 01:53:05,840

countries that maybe can't afford to

1843

01:53:09,750 --> 01:53:06,639

have

1844

01:53:11,910 --> 01:53:09,760

uh their own space and space agency uh

1845

01:53:13,430 --> 01:53:11,920

fly into space so this is just this is

1846

01:53:19,430 --> 01:53:13,440

just the beginning of this and i think

1847

01:53:23,830 --> 01:53:21,030

well we wish you the best of luck thank

1848

01:53:25,510 --> 01:53:23,840

you so much for your time today

1849

01:55:27,350 --> 01:53:25,520

thank you thank you thanks amanda thank

1850

01:55:27,360 --> 01:55:32,629

hmm

1851
01:55:37,910 --> 01:55:33,910
hello

1852
01:55:40,950 --> 01:55:37,920
hear me this is tammy field

1853
01:55:43,109 --> 01:55:40,960
we can hear you 13.

1854
01:55:45,030 --> 01:55:43,119
i got you loud and clear tammy from

1855
01:55:47,109 --> 01:55:45,040
central florida

1856
01:55:47,830 --> 01:55:47,119
hello hello can you hear us can you hear

1857
01:55:49,510 --> 01:55:47,840
us

1858
01:55:54,149 --> 01:55:49,520
hello

1859
01:55:55,109 --> 01:55:54,159
can we can hear you

1860
01:55:56,470 --> 01:55:55,119
acting

1861
01:55:58,830 --> 01:55:56,480
can you hear me

1862
01:56:01,189 --> 01:55:58,840
we can hear

1863
01:56:04,070 --> 01:56:01,199

you i don't think she can see us in your

1864

01:56:06,950 --> 01:56:06,229

hello hello hear me

1865

01:56:10,790 --> 01:56:06,960

yeah

1866

01:56:13,669 --> 01:56:11,589

i

1867

01:56:15,750 --> 01:56:13,679

can you hear me

1868

01:56:17,750 --> 01:56:15,760

yes

1869

01:56:19,750 --> 01:56:17,760

i can hear you chris can you hear me

1870

01:56:21,830 --> 01:56:19,760

this is jimmy field yes we can hear you

1871

01:56:24,470 --> 01:56:21,840

tammy

1872

01:56:37,030 --> 01:56:24,480

hello intestine chris can you hear me

1873

01:56:37,040 --> 01:56:42,950

can you hear us thank you

1874

01:56:46,070 --> 01:56:44,390

i can

1875

01:56:49,189 --> 01:56:46,080

all right all right i'm going to delay

1876

01:56:51,830 --> 01:56:50,950

hold on guys we have a huge delay we'll

1877

01:56:53,669 --> 01:56:51,840

try to get

1878

01:56:59,109 --> 01:56:53,679

out in a second hold on i think there