



1  
00:01:40,310 --> 00:01:37,490  
good morning Columbia and we hope

2  
00:01:43,090 --> 00:01:40,320  
winston appreciated the fight song from

3  
00:01:46,190 --> 00:01:43,100  
his alma mater Florida State

4  
00:01:47,990 --> 00:01:46,200  
good morning from Columbia I can't think

5  
00:01:49,880 --> 00:01:48,000  
of a better way to start today that

6  
00:01:51,950 --> 00:01:49,890  
hearing the the Florida State fight

7  
00:01:59,630 --> 00:01:51,960  
softly good morning to everybody and

8  
00:02:01,300 --> 00:01:59,640  
godo how was your Thanksgiving it was

9  
00:02:03,800 --> 00:02:01,310  
great we had a lot to be thankful for

10  
00:02:06,139 --> 00:02:03,810  
for a successful mission for the most

11  
00:02:07,820 --> 00:02:06,149  
part especially the capture and of

12  
00:02:12,110 --> 00:02:07,830  
course we did have our traditional

13  
00:02:14,690 --> 00:02:12,120

turkey dinner talking about the capture

14

00:02:16,550 --> 00:02:14,700

wrestling a satellite beams to the

15

00:02:19,699 --> 00:02:16,560

layman on earth to be such a simple

16

00:02:22,190 --> 00:02:19,709

thing in zero gravity but it's really a

17

00:02:23,539 --> 00:02:22,200

complicated procedure there to grab

18

00:02:30,740 --> 00:02:23,549

something even in a weightless

19

00:02:32,390 --> 00:02:30,750

environment about a trivial event that

20

00:02:34,729 --> 00:02:32,400

far the leg is several thousand pounds

21

00:02:37,130 --> 00:02:34,739

is weight as much as most automobiles

22

00:02:38,690 --> 00:02:37,140

and yes spacesuits themselves of course

23

00:02:40,520 --> 00:02:38,700

are very bulky so not only do you have

24

00:02:42,319 --> 00:02:40,530

to fight the suit but you get to I'll be

25

00:02:44,390 --> 00:02:42,329

very careful as to how you handle that

26

00:03:05,509 --> 00:02:44,400

massive satellite you could go out of

27

00:03:08,420 --> 00:03:05,519

control on you and that its ability is

28

00:03:11,330 --> 00:03:08,430

the grand-am of the fleet and she is

29

00:03:13,910 --> 00:03:11,340

really applying flawlessly the folks

30

00:03:16,340 --> 00:03:13,920

Kennedy Space Center and have Buster sir

31

00:03:20,599 --> 00:03:16,350

it turned her around give us a really

32

00:03:22,520 --> 00:03:20,609

clean bird and she's doing just fine now

33

00:03:24,710 --> 00:03:22,530

you onboard have an experiment from

34

00:03:26,720 --> 00:03:24,720

Philips laboratory here in Albuquerque

35

00:03:33,140 --> 00:03:26,730

the sodium sulfur battery flight to

36

00:03:35,270 --> 00:03:33,150

Paris develop what it is not going yes

37

00:03:36,860 --> 00:03:35,280

the nasbe as we call it was sodium

38

00:03:39,379 --> 00:03:36,870

sulfur battery experiment you're right

39

00:03:42,949 --> 00:03:39,389

isn't the payload bay and it's a

40

00:03:45,740 --> 00:03:42,959

spearmint that that is testing how well

41

00:03:47,300 --> 00:03:45,750

a different type of battery using sodium

42

00:03:49,640 --> 00:03:47,310

itself is going to work

43

00:03:52,430 --> 00:03:49,650

to pay packages back it's about three

44

00:03:54,110 --> 00:03:52,440

times the electrical unity that we can

45

00:03:56,470 --> 00:03:54,120

get from a comparable battery of that

46

00:03:58,220 --> 00:03:56,480

size using traditional chemicals the

47

00:04:00,050 --> 00:03:58,230

baptism working real well

48

00:04:02,510 --> 00:04:00,060

it went with startup procedures see the

49

00:04:04,400 --> 00:04:02,520

procedure we've had a couple of charging

50

00:04:06,290 --> 00:04:04,410

cycles a couple of discharge cycles and

51  
00:04:09,070 --> 00:04:06,300  
the Schloss working real well that has a

52  
00:04:11,059 --> 00:04:09,080  
great potential for use on Space Station

53  
00:04:12,670 --> 00:04:11,069  
Baptist God I'm sure the folks at

54  
00:04:15,770 --> 00:04:12,680  
Philips would be glad to hear that

55  
00:04:19,190 --> 00:04:15,780  
doctor to cowboy you were the first

56  
00:04:21,650 --> 00:04:19,200  
Japanese astronaut to walk in space and

57  
00:04:24,260 --> 00:04:21,660  
obviously this was a an incredible event

58  
00:04:25,879 --> 00:04:24,270  
for you and your country what was it

59  
00:04:32,210 --> 00:04:25,889  
like to actually float outside the

60  
00:04:39,070 --> 00:04:32,220  
spacecraft final experience I was very

61  
00:04:45,980 --> 00:04:39,080  
excited about to just settle this time

62  
00:04:49,640 --> 00:04:45,990  
we it was also spectacular I am really

63  
00:04:53,210 --> 00:04:49,650

happy that we could have this kind of

64

00:04:54,890 --> 00:04:53,220

great experience of course there's a lot

65

00:04:56,600 --> 00:04:54,900

of kids out there who are watching and

66

00:04:58,010 --> 00:04:56,610

spaceflight is such a fascinating thing

67

00:05:00,080 --> 00:04:58,020

for kids of all ages

68

00:05:01,820 --> 00:05:00,090

what would your recommendations be to

69

00:05:04,580 --> 00:05:01,830

kids out there on what they should focus

70

00:05:06,650 --> 00:05:04,590

on if they want to study to be an

71

00:05:09,969 --> 00:05:06,660

astronaut what should be the top subject

72

00:05:18,340 --> 00:05:14,779

well since I was a kid I liked watching

73

00:05:20,960 --> 00:05:18,350

sports and just I I have been pursuing

74

00:05:25,129 --> 00:05:20,970

what you start and studying the universe

75

00:05:28,550 --> 00:05:25,139

and my dream is evident just exploring

76  
00:05:28,940 --> 00:05:28,560  
the universe and the door about outer

77  
00:05:33,290 --> 00:05:28,950  
space

78  
00:05:36,680 --> 00:05:33,300  
I'm just passing my dream the most

79  
00:05:40,730 --> 00:05:36,690  
important thing I can tell too many many

80  
00:05:44,330 --> 00:05:40,740  
other people's that I just cover your

81  
00:05:46,370 --> 00:05:44,340  
own dream and pursue it and this is a

82  
00:05:50,650 --> 00:05:46,380  
microgravity experiment very quickly

83  
00:05:56,390 --> 00:05:54,260  
right now we are conducting the material

84  
00:05:59,590 --> 00:05:56,400  
science experiment

85  
00:06:03,100 --> 00:05:59,600  
so in the mid take in a player to be

86  
00:06:19,730 --> 00:06:03,110  
especially today we are going to

87  
00:06:24,159 --> 00:06:19,740  
experience which may give us very high

88  
00:06:28,240 --> 00:06:24,169

quality crystal which can be used for

89

00:06:30,200 --> 00:06:28,250

computers many other electronics yes I

90

00:06:32,480 --> 00:06:30,210

understand they're making the decision

91

00:06:34,400 --> 00:06:32,490

on Monday whether or not to let Spartan

92

00:06:35,570 --> 00:06:34,410

free again but some of the wire stories

93

00:06:37,760 --> 00:06:35,580

we're hearing is that the Space Shuttle

94

00:06:39,860 --> 00:06:37,770

is going to have to backup 30 or 40

95

00:06:41,810 --> 00:06:39,870

miles to give it some room to do its

96

00:06:46,129 --> 00:06:41,820

thing what is that all about can you

97

00:06:48,800 --> 00:06:46,139

explain that simply to us well very

98

00:06:50,960 --> 00:06:48,810

simply at when we release the satellite

99

00:06:54,320 --> 00:06:50,970

we go into what a station keep boat is

100

00:06:58,129 --> 00:06:54,330

we just use normal orbital mechanics let

101  
00:07:00,290 --> 00:06:58,139  
us drift slowly 30 40 miles away and

102  
00:07:02,930 --> 00:07:00,300  
that gets us in a position where we

103  
00:07:04,700 --> 00:07:02,940  
won't flicked in subsequent orbits with

104  
00:07:06,890 --> 00:07:04,710  
the sport and also we're close enough

105  
00:07:10,850 --> 00:07:06,900  
that way it's time to retreat if we can

106  
00:07:13,190 --> 00:07:10,860  
do that in a very efficient manner I did

107  
00:07:14,960 --> 00:07:13,200  
a story just this week in Palmdale where

108  
00:07:17,120 --> 00:07:14,970  
they're refurbishing another space

109  
00:07:18,320 --> 00:07:17,130  
shuttle Atlantis and I think I know

110  
00:07:20,210 --> 00:07:18,330  
where you guys are right now I think

111  
00:07:21,469 --> 00:07:20,220  
you're at the flight deck if I'm not

112  
00:07:22,909 --> 00:07:21,479  
sure can you just tell me where you are

113  
00:07:26,480 --> 00:07:22,919

and show me something behind you and

114

00:07:30,170 --> 00:07:26,490

give us a little quick tour sure we are

115

00:07:33,670 --> 00:07:30,180

the flight deck right behind Winston is

116

00:07:37,100 --> 00:07:33,680

the pilots peak where Steve Lindsey sits

117

00:07:40,430 --> 00:07:37,110

where Takano is is the center console

118

00:07:42,170 --> 00:07:40,440

and that is looking right at the the

119

00:07:46,670 --> 00:07:42,180

flight deck and the commander seats off

120

00:07:48,830 --> 00:07:46,680

to the left back out the aft here is our

121

00:07:50,629 --> 00:07:48,840

two windows where we can see out through

122

00:07:52,939 --> 00:07:50,639

the tail and we happen to be belly to

123

00:07:55,610 --> 00:07:52,949

the earth so we can look down way

124

00:07:57,620 --> 00:07:55,620

through these overhead windows and look

125

00:08:00,800 --> 00:07:57,630

out and see those and we're passing over

126  
00:08:02,600 --> 00:08:00,810  
the Pacific Ocean at this time captain

127  
00:08:04,279 --> 00:08:02,610  
Scott one of the things that I noticed

128  
00:08:06,409 --> 00:08:04,289  
was how cramped the quarters are in

129  
00:08:08,779 --> 00:08:06,419  
there can you tell me a little bit about

130  
00:08:09,860 --> 00:08:08,789  
how weightlessness makes it not quite as

131  
00:08:13,580 --> 00:08:09,870  
crammed as it would be

132  
00:08:15,410 --> 00:08:13,590  
on earth wanted here as you can imagine

133  
00:08:17,480 --> 00:08:15,420  
weightlessness does just that because

134  
00:08:19,790 --> 00:08:17,490  
not only do you use the normal space

135  
00:08:21,950 --> 00:08:19,800  
that you use on earth but you use all

136  
00:08:24,170 --> 00:08:21,960  
the space in the overhead when we

137  
00:08:26,690 --> 00:08:24,180  
translate for example it's very easy to

138  
00:08:29,210 --> 00:08:26,700

just go over a crewmembers head or go

139

00:08:33,020 --> 00:08:29,220

float along the floor on a crewmembers

140

00:08:35,060 --> 00:08:33,030

feet we really do use all all of the

141

00:08:37,940 --> 00:08:35,070

volume available to us and not just a

142

00:08:42,770 --> 00:08:37,950

portion that we would use on earth how

143

00:08:44,840 --> 00:08:42,780

do you sleep what position and this this

144

00:08:47,120 --> 00:08:44,850

particular flight we have sleep stations

145

00:08:50,360 --> 00:08:47,130

and the three stations are horizontally

146

00:08:52,220 --> 00:08:50,370

oriented compartment inside those three

147

00:08:53,720 --> 00:08:52,230

phases a sleeping bag before the stop

148

00:08:56,600 --> 00:08:53,730

ourselves in the sleeping bags to keep

149

00:08:58,940 --> 00:08:56,610

from floating away and we literally trip

150

00:09:01,580 --> 00:08:58,950

about inside those sleeping bags or

151

00:09:03,170 --> 00:09:01,590

missions with no sleep stations each

152

00:09:05,090 --> 00:09:03,180

team member will strap his or her

153

00:09:07,100 --> 00:09:05,100

sleeping bag wherever they want it and

154

00:09:09,170 --> 00:09:07,110

they sleep that way you can sleep upside

155

00:09:11,300 --> 00:09:09,180

down sideways backwards forwards there

156

00:09:12,920 --> 00:09:11,310

is no upper delegates face they were

157

00:09:15,410 --> 00:09:12,930

afraid at first but when you get used to

158

00:09:18,380 --> 00:09:15,420

this kind of fun that's great

159

00:09:20,480 --> 00:09:18,390

mission specialist joy I know even you

160

00:09:22,610 --> 00:09:20,490

trained a lot before you actually go up

161

00:09:23,990 --> 00:09:22,620

and you know what to expect but what was

162

00:09:26,180 --> 00:09:24,000

the most surprising thing once you

163

00:09:28,100 --> 00:09:26,190

actually went on the mission and and the

164

00:09:57,530 --> 00:09:28,110

thing that you that went as planned I

165

00:10:00,830 --> 00:09:57,540

guess right and it was this amazing

166

00:10:02,000 --> 00:10:00,840

experience I have just little time left

167

00:10:03,470 --> 00:10:02,010

I'd like to go back to the commander

168

00:10:05,300 --> 00:10:03,480

kragle just for a second if I could

169

00:10:07,730 --> 00:10:05,310

commander I know you guys can't be

170

00:10:09,800 --> 00:10:07,740

possibly working 24 hours a day is there

171

00:10:11,240 --> 00:10:09,810

any free time at all and if so what do

172

00:10:16,700 --> 00:10:11,250

you guys do with your free time up there

173

00:10:19,970 --> 00:10:16,710

oh we works really hard but we do get

174

00:10:22,220 --> 00:10:19,980

that big time from time to time and the

175

00:10:23,430 --> 00:10:22,230

number one last time for everyone is to

176

00:10:26,220 --> 00:10:23,440

look out the window

177

00:10:28,530 --> 00:10:26,230

I can exercise and you can read a book

178

00:10:30,600 --> 00:10:28,540

but you can do that on earth you can't

179

00:10:33,390 --> 00:10:30,610

look out the window and get such a

180

00:10:37,500 --> 00:10:33,400

spectacular view anyplace but here I

181

00:10:40,650 --> 00:10:37,510

think that's the pastime of choice is it

182

00:10:42,900 --> 00:10:40,660

hard not to think of philosophy and

183

00:10:44,100 --> 00:10:42,910

religion and all those kinds of things I

184

00:10:48,870 --> 00:10:44,110

guess when you're in a position to where

185

00:10:52,200 --> 00:10:48,880

you folks are I would say it's a very

186

00:10:53,880 --> 00:10:52,210

humbling position and I think all folks

187

00:10:56,040 --> 00:10:53,890

get very introspective when they're up

188

00:11:00,120 --> 00:10:56,050

here I just looking at this speck

189

00:11:02,700 --> 00:11:00,130

there's a blue planet go beneath us

190

00:11:04,110 --> 00:11:02,710

folks down here on earth were watching

191

00:11:06,330 --> 00:11:04,120

with great interest when two of you grab

192

00:11:07,980 --> 00:11:06,340

that Aaron satellite not quite with your

193

00:11:09,990 --> 00:11:07,990

bare hands but close enough I guess

194

00:11:11,370 --> 00:11:10,000

captain Scott you told reporters last

195

00:11:12,720 --> 00:11:11,380

Saturday night you believe this could be

196

00:11:14,250 --> 00:11:12,730

done even though I understand it's been

197

00:11:41,730 --> 00:11:14,260

like five years since the last time

198

00:11:45,240 --> 00:11:41,740

somebody was behind that really will be

199

00:11:47,160 --> 00:11:45,250

a thing that boosted my carpets you've

200

00:11:49,080 --> 00:11:47,170

made a number of spacewalks before I

201  
00:11:50,850 --> 00:11:49,090  
know how do they prepare you for this

202  
00:11:55,470 --> 00:11:50,860  
particular maneuver you're grabbing a

203  
00:11:57,240 --> 00:11:55,480  
satellite of course you can't predict

204  
00:11:59,460 --> 00:11:57,250  
every single maneuver that's going to

205  
00:12:01,680 --> 00:11:59,470  
happen we claim the best we can we had

206  
00:12:03,990 --> 00:12:01,690  
practice for grabbing a satellite but

207  
00:12:07,500 --> 00:12:04,000  
never a grabbing one that was rotating

208  
00:12:09,180 --> 00:12:07,510  
in this fashion and again we we looked

209  
00:12:10,560 --> 00:12:09,190  
at the events as they occurred made the

210  
00:12:12,290 --> 00:12:10,570  
best decision we could unfortunately

211  
00:12:15,450 --> 00:12:12,300  
everything worked out real well for us

212  
00:12:17,780 --> 00:12:15,460  
and like a giant fire rolling football

213  
00:12:20,579 --> 00:12:17,790

is that right trying to catch that

214

00:12:23,490 --> 00:12:20,589

doctor do you now you work for Japan's

215

00:12:30,269 --> 00:12:23,500

nazhde is Japan working toward its own

216

00:12:43,110 --> 00:12:32,460

right now we are working very closely

217

00:12:47,189 --> 00:12:43,120

with Japan is working on the

218

00:12:53,040 --> 00:12:47,199

presentation program and will Japanese

219

00:12:54,900 --> 00:12:53,050

experiment module let me move on to

220

00:12:56,280 --> 00:12:54,910

Commander Freegal working with an

221

00:13:03,420 --> 00:12:56,290

international crew is certainly nothing

222

00:13:05,819 --> 00:13:03,430

new for you is it folks the office yeah

223

00:13:08,489 --> 00:13:05,829

my last mission of sports done to work

224

00:13:11,549 --> 00:13:08,499

with a freshman jean-jacques ba ba

225

00:13:13,920 --> 00:13:11,559

a Canadian Bob first then a to backup

226

00:13:15,470 --> 00:13:13,930

Pedro to case from Spain and Luca Oh

227

00:13:18,600 --> 00:13:15,480

Bonnie from Italy

228

00:13:20,579 --> 00:13:18,610

commander Fingal in what ways is your

229

00:13:22,439 --> 00:13:20,589

experience in space enriched by an

230

00:13:23,429 --> 00:13:22,449

international crew and in what ways is

231

00:13:28,410 --> 00:13:23,439

it complicated

232

00:13:30,749 --> 00:13:28,420

I think it's complicated at all it's

233

00:13:32,699 --> 00:13:30,759

just some challenges learning the

234

00:13:35,400 --> 00:13:32,709

different cultures and and get the

235

00:13:36,900 --> 00:13:35,410

common language but I think it's

236

00:13:39,540 --> 00:13:36,910

enriched as we bring the different

237

00:13:41,730 --> 00:13:39,550

cultures together because when you bring

238

00:13:44,879 --> 00:13:41,740

different cultures you know each other a

239

00:13:46,470 --> 00:13:44,889

lot of this stress goes away and a lot

240

00:13:49,740 --> 00:13:46,480

of harmony comes out of it so I think

241

00:13:52,199 --> 00:13:49,750

working in an international crew really

242

00:13:53,749 --> 00:13:52,209

shows the way of how the world should be

243

00:13:55,980 --> 00:13:53,759

in the future

244

00:13:58,259 --> 00:13:55,990

gentlemen I guess this is a question for

245

00:13:59,670 --> 00:13:58,269

for all or any of you when when did you

246

00:14:08,269 --> 00:13:59,680

first know you wanted to be an out of

247

00:14:11,069 --> 00:14:08,279

state this is what I wanted to do when I

248

00:14:13,860 --> 00:14:11,079

saw the folks during the immersive a

249

00:14:16,199 --> 00:14:13,870

Gemini and Apollo years it's that guys

250

00:14:18,540 --> 00:14:16,209

were walking on the moon and exploring

251  
00:14:20,579 --> 00:14:18,550  
the universe I said that's something I'd

252  
00:14:26,429 --> 00:14:20,589  
like to do I'd like to go to the minute

253  
00:14:31,829 --> 00:14:26,439  
of the Mars yard I walk in the Mercury

254  
00:14:33,449 --> 00:14:31,839  
program it was like to do it but I never

255  
00:14:34,079 --> 00:14:33,459  
had any inkling like it would come true

256  
00:14:36,540 --> 00:14:34,089  
for me

257  
00:14:40,249 --> 00:14:36,550  
fortunately things did work out well and

258  
00:14:43,050 --> 00:14:40,259  
I am and in addition to that I like to

259  
00:14:45,450 --> 00:14:43,060  
to say that if I can't

260  
00:14:47,130 --> 00:14:45,460  
an image or a role model to other

261  
00:14:48,600 --> 00:14:47,140  
pathologies who might get sick of the

262  
00:14:51,030 --> 00:14:48,610  
program they certainly take that

263  
00:14:52,140 --> 00:14:51,040

responsibility very seriously but yeah

264

00:14:58,500 --> 00:14:52,150

I'm very happy to be a part of the

265

00:15:03,110 --> 00:14:58,510

program when I was 14 years old I

266

00:15:08,670 --> 00:15:03,120

started to the stores and at the time