



1
00:00:49,139 --> 00:00:45,900
this is shuttle launch control at

2
00:00:54,119 --> 00:00:49,149
t-minus three hours and holding and we

3
00:00:57,180 --> 00:00:54,129
are standing by to have live TV of the

4
00:01:01,380 --> 00:00:57,190
crew and they're suiting as they make

5
00:01:03,149 --> 00:01:01,390
preparations for launch this evening at

6
00:01:05,550 --> 00:01:03,159
this time everything continues to go

7
00:01:08,310 --> 00:01:05,560
back on schedule we were a little late

8
00:01:10,770 --> 00:01:08,320
getting our cryogenics loaded into the

9
00:01:12,810 --> 00:01:10,780
external tank due to some software

10
00:01:15,870 --> 00:01:12,820
problems in the firing room but that's

11
00:01:18,180 --> 00:01:15,880
been resolved and tanking began about an

12
00:01:20,730 --> 00:01:18,190
hour late but it has also just now

13
00:01:23,550 --> 00:01:20,740

completed also at the pad or the

14

00:01:25,380 --> 00:01:23,560

closeout teams for the astronauts

15

00:01:27,210 --> 00:01:25,390

they'll be configuring the cockpit

16

00:01:30,779 --> 00:01:27,220

switches and making sure that everything

17

00:01:32,969 --> 00:01:30,789

is ready for the crew to to ingress the

18

00:01:35,430 --> 00:01:32,979

vehicle crew the seven members of our

19

00:01:38,010 --> 00:01:35,440

flight team are in their crew quarters

20

00:01:39,480 --> 00:01:38,020

making last-minute preparations being

21

00:01:44,999 --> 00:01:39,490

suited for this mission

22

00:01:47,219 --> 00:01:45,009

Jim Weatherby is as being attended to he

23

00:01:51,300 --> 00:01:47,229

has his helmet on he of course it's

24

00:01:53,400 --> 00:01:51,310

preparing for his having served as pilot

25

00:01:57,630 --> 00:01:53,410

of mission STS 32 and commander of

26

00:01:59,100 --> 00:01:57,640

mission STS 52 and 63 that was the first

27

00:02:07,490 --> 00:01:59,110

special mission to rendezvous with the

28

00:02:13,130 --> 00:02:11,600

and his pilot is Mike bloomfield and he

29

00:02:15,080 --> 00:02:13,140

is preparing for his first shuttle

30

00:02:21,680 --> 00:02:15,090

mission he is a graduate of the US Air

31

00:02:24,920 --> 00:02:21,690

Force Academy degree sign to NASA as an

32

00:02:26,990 --> 00:02:24,930

astronaut candidate in 1995 a mission

33

00:02:29,390 --> 00:02:27,000

specialist Wendy Lawrence the only

34

00:02:31,010 --> 00:02:29,400

female aboard this flight making her

35

00:02:34,400 --> 00:02:31,020

second trip into space aboard the

36

00:02:50,460 --> 00:02:34,410

shuttle face it she was deemed too small

37

00:03:04,330 --> 00:02:59,280

and as we move across the room and

38

00:03:07,960 --> 00:03:04,340

looking at another mission specialist it

39

00:03:11,560 --> 00:03:07,970

looks like Scott Parazynski he too was

40

00:03:14,860 --> 00:03:11,570

at one point considered to be a member

41

00:03:16,600 --> 00:03:14,870

of a mere team but he has since now been

42

00:03:19,110 --> 00:03:16,610

assigned to this flight as a member of

43

00:03:23,980 --> 00:03:19,120

the flight crew to make the round trip

44

00:03:27,340 --> 00:03:23,990

the the member of the team who will be

45

00:03:29,230 --> 00:03:27,350

going up and staying on Mir is mission

46

00:03:30,810 --> 00:03:29,240

specialist Dave wolf and this will be

47

00:03:34,210 --> 00:03:30,820

his second trip on the shuttle

48

00:03:38,860 --> 00:03:34,220

Vladimir cheat off also is a member of

49

00:03:40,270 --> 00:03:38,870

this crew he will be making his second

50

00:03:43,090 --> 00:03:40,280

flight on the shuttle but this is his

51

00:03:46,930 --> 00:03:43,100

fifth flight overall he became a

52

00:03:50,560 --> 00:03:46,940

cosmonaut and back in 1976 and served as

53

00:03:53,080 --> 00:03:50,570

commander of the soyuz tien he first

54

00:03:57,610 --> 00:03:53,090

flew on the shuttle and night on mission

55

00:03:59,560 --> 00:03:57,620

STS 63 in February of 1995 with his

56

00:04:06,370 --> 00:03:59,570

current commander and Jim Weatherby of

57

00:04:08,110 --> 00:04:06,380

this mission and it's hard to tell who

58

00:04:10,060 --> 00:04:08,120

these astronauts are with their how much

59

00:04:12,670 --> 00:04:10,070

Samba that looked like it was John Luke

60

00:04:15,970 --> 00:04:12,680

Raytheon a member of our flight crew

61

00:04:32,830 --> 00:04:15,980

actually a he is a chief of the French

62

00:04:37,659 --> 00:04:35,210

witnessing the crew departure are a

63

00:04:39,950 --> 00:04:37,669

number of KSC employees who have

64

00:04:42,740 --> 00:04:39,960

finished up their day and decided to

65

00:04:44,750 --> 00:04:42,750

stick around for a couple hours to take

66

00:04:47,780 --> 00:04:44,760

some photographs of the seven members of

67

00:04:50,719 --> 00:04:47,790

the STS 86 crew being led by Jim

68

00:04:52,850 --> 00:04:50,729

Weatherby followed by a pilot Michael

69

00:04:54,560 --> 00:04:52,860

Bloomfield mission specialist vladimir

70

00:04:57,530 --> 00:04:54,570

tito scott Parazynski

71

00:05:05,360 --> 00:04:57,540

John with Crete G on Winnie Lawrence and

72

00:05:07,850 --> 00:05:05,370

David Wolfe remain in orbit over 11

73

00:05:09,920 --> 00:05:07,860

years I think is a testimony to how well

74

00:05:12,469 --> 00:05:09,930

the Russians understand what it takes to

75

00:05:13,780 --> 00:05:12,479

operate in orbit and we need to be very

76

00:05:16,040 --> 00:05:13,790

mindful of that

77

00:05:22,100 --> 00:05:16,050

it looks like the pad has been cleared

78

00:05:25,580 --> 00:05:22,110

of all an appropriate personnel as well

79

00:05:52,100 --> 00:05:25,590

as the personnel who are on the pad have

80

00:05:52,110 --> 00:05:59,490

Oh God

81

00:06:03,999 --> 00:06:03,760

OTC ovcc glad and there's two in at this

82

00:06:11,670 --> 00:06:04,009

time

83

00:06:16,150 --> 00:06:13,930

let's do a contact person I look like I

84

00:06:21,480 --> 00:06:16,160

want Atlanta so tear the ground one how

85

00:06:22,840 --> 00:06:21,490

do you read city I'll ask loud and clear

86

00:06:35,440 --> 00:06:22,850

yeah

87

00:06:37,540 --> 00:06:35,450

going here exact to last Euston for the

88

00:06:44,020 --> 00:06:37,550

CEO NP LT calm check on the other ground

89

00:06:46,360 --> 00:06:44,030

to my ass Houston have you loud and

90

00:06:48,160 --> 00:06:46,370

clear configured for air to air this is

91

00:06:50,560 --> 00:06:48,170

shuttle launch control at t-minus one

92

00:06:53,770 --> 00:06:50,570

hour two minutes and Counting and this

93

00:06:57,970 --> 00:06:53,780

is a unique view of our vehicle and pad

94

00:07:00,820 --> 00:06:57,980

39a with delights of pad 39b behind it

95

00:07:03,550 --> 00:07:00,830

pad 39b is currently undergoing a number

96

00:07:07,200 --> 00:07:03,560

of renovations and modifications and

97

00:07:10,000 --> 00:07:07,210

will be used in the next several months

98

00:07:12,250 --> 00:07:10,010

from his standpoint several thousand

99

00:07:14,320 --> 00:07:12,260

feet over the pad that everything

100

00:07:18,400 --> 00:07:14,330

continues to look good from a weather

101
00:07:20,650 --> 00:07:18,410
standpoint based on that this is shuttle

102
00:07:22,750 --> 00:07:20,660
launch control at t-minus 20 minutes and

103
00:07:25,750 --> 00:07:22,760
holding with about 20 seconds remaining

104
00:07:27,460 --> 00:07:25,760
in our hold as we come out of the hold

105
00:07:29,110 --> 00:07:27,470
Atlantis is onboard computers will

106
00:07:31,660 --> 00:07:29,120
transition into the terminal phase of

107
00:07:33,250 --> 00:07:31,670
the countdown configuration inside

108
00:07:35,470 --> 00:07:33,260
Atlantis is payload Bay is the

109
00:07:37,630 --> 00:07:35,480
pressurized space have double module

110
00:07:39,670 --> 00:07:37,640
which was is being used to carry more

111
00:07:41,850 --> 00:07:39,680
than six thousand pounds of science

112
00:07:44,680 --> 00:07:41,860
equipment and experiments into orbit

113
00:07:47,320 --> 00:07:44,690

also food clothing batteries and water

114

00:07:49,720 --> 00:07:47,330

is being transferred from Atlantis to

115

00:07:51,790 --> 00:07:49,730

the mirror and that equipment is being

116

00:08:17,660 --> 00:07:51,800

carried up in the space hab and we are

117

00:08:22,050 --> 00:08:20,460

it's been a great flow for Atlantis that

118

00:08:23,670 --> 00:08:22,060

I saw the folks who worked on the

119

00:08:27,140 --> 00:08:23,680

processing of a vehicle what do you say

120

00:08:31,250 --> 00:08:27,150

we take it to space Jim not to this

121

00:08:37,409 --> 00:08:31,260

entity you've cleared a lot I copy

122

00:08:39,210 --> 00:08:37,419

TLS is dope Oh a replay the Oh a a or

123

00:08:41,490 --> 00:08:39,220

the orbiter access arm is being

124

00:08:43,770 --> 00:08:41,500

retracted away this is the walkway used

125

00:08:47,250 --> 00:08:43,780

by the crew to gain entry into and out

126
00:08:50,480 --> 00:08:47,260
of the vehicle and it can be returned to

127
00:08:53,940 --> 00:08:50,490
position within seconds if need be to

128
00:08:56,490 --> 00:08:53,950
forecast broken deck here new tonight

129
00:08:59,420 --> 00:08:56,500
will be Marone that site number three

130
00:09:02,070 --> 00:08:59,430
now only point nominal speed break

131
00:09:05,910 --> 00:09:02,080
altimeter there's two Niner Niner Niner

132
00:09:07,530 --> 00:09:05,920
one zero zero five zero at four and we

133
00:09:09,930 --> 00:09:07,540
are receiving the signal from Mission

134
00:09:12,630 --> 00:09:09,940
Control in Houston to start the orbiters

135
00:09:13,980 --> 00:09:12,640
flight recorders these recorders collect

136
00:09:18,510 --> 00:09:13,990
measurements of shuttle system

137
00:09:34,730 --> 00:09:18,520
performance during flight t-minus two

138
00:09:42,000 --> 00:09:37,139

and everything continues to look good

139

00:09:43,769 --> 00:09:42,010

and we are cleared for lunch tonight no

140

00:09:48,000 --> 00:09:43,779

problems being reported from the vehicle

141

00:10:18,700 --> 00:09:48,010

or the crude t-minus two minutes and

142

00:10:28,700 --> 00:10:26,660

hey think fast everybody and we have a

143

00:10:31,040 --> 00:10:28,710

go for autosequence start Atlantis

144

00:10:33,610 --> 00:10:31,050

onboard computers have primary control

145

00:10:42,099 --> 00:10:33,620

of all the vehicles critical functions

146

00:10:50,449 --> 00:10:42,109

t-minus 20 seconds t-minus 15

147

00:10:54,309 --> 00:10:50,459

12 11 10 9 8 we have a go for me five

148

00:10:57,109 --> 00:10:54,319

four three two one

149

00:10:58,999 --> 00:10:57,119

booster ignition and liftoff of the

150

00:11:00,889 --> 00:10:59,009

space shuttle Atlantis extending

151

00:11:05,749 --> 00:11:00,899

America's presence in space while

152

00:11:08,569 --> 00:11:05,759

opening new chapters in exploration mr.

153

00:11:10,519 --> 00:11:08,579

Naville control control program

154

00:11:19,609 --> 00:11:10,529

initiated place of - on its heads down

155

00:11:36,019 --> 00:11:19,619

track over the atlantic region

156

00:11:39,979 --> 00:11:36,029

straddling down now 367 atlantis moving

157

00:11:41,979 --> 00:11:39,989

at 1,000 miles per hour now altitude 8.8

158

00:11:51,679 --> 00:11:41,989

miles downrange 5.8 miles

159

00:11:54,049 --> 00:11:51,689

Atlanta three engines bagged 104 percent

160

00:11:57,109 --> 00:11:54,059

now Atlantis moving at 1600 miles per

161

00:12:00,960 --> 00:11:57,119

hour Atlantis that is a Doozer copy and

162

00:12:05,460 --> 00:12:03,309

three good fuel fuel cells three good

163

00:12:08,079 --> 00:12:05,470

APU three engines running at 104 percent

164

00:12:09,879 --> 00:12:08,089

Atlantis now moving at over 2,000 miles

165

00:12:18,309 --> 00:12:09,889

per hour eighteen point four miles in

166

00:12:20,049 --> 00:12:18,319

altitude downrange 16 miles about 15

167

00:12:23,769 --> 00:12:20,059

seconds away from solid rocket booster

168

00:12:37,600 --> 00:12:23,779

separation Atlantis moving at 2800 miles

169

00:12:48,199 --> 00:12:39,530

have solid rocket booster separation

170

00:12:58,040 --> 00:12:48,209

confirmed guidance converging confirmed

171

00:13:06,860 --> 00:12:58,050

main engine cutoff Atlantis now no miko'

172

00:14:44,280 --> 00:13:06,870

ohms one not required required ET

173

00:14:48,790 --> 00:14:46,540

good morning Atlantis it's time to do

174

00:14:58,520 --> 00:14:48,800

that delicate dance in the dark and aqua

175

00:14:58,530 --> 00:15:14,110

one they gave us right yes thank you

176
00:15:14,120 --> 00:15:18,600
there's one

177
00:15:18,610 --> 00:15:44,410
okay

178
00:15:44,420 --> 00:15:48,880
strange

179
00:15:48,890 --> 00:16:05,530
strain detectable

180
00:16:05,540 --> 00:16:20,940
2,292 this is yours

181
00:16:26,980 --> 00:16:24,910
like when you get a hey we're getting

182
00:16:31,120 --> 00:16:26,990
attitude okay it looks like we're an

183
00:17:04,630 --> 00:16:31,130
attitude I had four degrees at four

184
00:17:11,740 --> 00:17:07,010
and I went back to hey did you want to

185
00:17:20,179 --> 00:17:11,750
be in B that matter okay okay that's

186
00:17:22,429 --> 00:17:20,189
look here 0.2 it's just 5.2 the rest of

187
00:17:23,960 --> 00:17:22,439
the way in and try and stay on the fast

188
00:17:25,760 --> 00:17:23,970

side of point two in other words let it

189

00:17:27,409 --> 00:17:25,770

go down 2.2 and then pump it up

190

00:17:29,600 --> 00:17:27,419

I'd like point two four and I'll be down

191

00:17:31,700 --> 00:17:29,610

2.2 and then when we get in closer like

192

00:17:33,350 --> 00:17:31,710

a hundred seventy feet or so that we can

193

00:17:38,320 --> 00:17:33,360

start playing the game Oh point one

194

00:17:38,330 --> 00:17:41,410

and got

195

00:17:41,420 --> 00:17:48,130

exactly we were talking

196

00:17:59,960 --> 00:17:52,310

1.92 you the point - until we get down

197

00:18:01,610 --> 00:17:59,970

to 110 feet Jim family with 2030 yes no

198

00:18:16,910 --> 00:18:01,620

right now if you didn't do any more

199

00:18:39,289 --> 00:18:16,920

folks as you would stop in turn to me

200

00:18:43,799 --> 00:18:41,070

that's when the window opened that's

201
00:18:49,789 --> 00:18:43,809
that's two minutes into it right that is

202
00:18:52,289 --> 00:18:49,799
right it's in one 44:29 bump it up to

203
00:18:59,520 --> 00:18:52,299
now we're going to do the the DAP

204
00:19:07,090 --> 00:19:02,020
just don't touch me yeah you can hold me

205
00:19:11,710 --> 00:19:07,100
a little bit there we go nice oh now you

206
00:19:19,880 --> 00:19:11,720
can see is the ring this is a need okay

207
00:19:30,120 --> 00:19:23,970
what they think look lice leave the

208
00:19:42,840 --> 00:19:30,130
lights the way they are the window open

209
00:19:49,080 --> 00:19:45,030
still have the rain coming the plan

210
00:19:56,100 --> 00:19:49,090
right what's good rolling you're happy

211
00:20:00,450 --> 00:19:56,110
with Billy speaking an image now so we

212
00:20:01,620 --> 00:20:00,460
got a mic and when this one's done I

213
00:20:04,830 --> 00:20:01,630

have another one of the centreline

214

00:21:24,060 --> 00:20:04,840

camera well we're sure not going to turn

215

00:21:32,260 --> 00:21:27,370

context sure yesterday yesterday as a

216

00:21:43,490 --> 00:21:34,770

excellent waiting for damping to come on

217

00:21:43,500 --> 00:21:58,010

this huge was read enough

218

00:21:58,020 --> 00:22:17,980

I saw the role of him

219

00:22:25,950 --> 00:22:20,499

okay what are we looking on the base

220

00:23:03,419 --> 00:22:25,960

there now about 20 at 7% should see

221

00:23:09,070 --> 00:23:05,799

Atlantis Mary Houston we're five minutes

222

00:23:12,460 --> 00:23:09,080

to hand over to tigress East we expect

223

00:23:15,580 --> 00:23:12,470

to be in blockage for the East pass and

224

00:24:53,549 --> 00:23:15,590

air-to-ground will be unreliable up

225

00:24:53,559 --> 00:25:31,899

we have other presents for you too

226
00:25:38,840 --> 00:25:35,450
houston you cannot believe the number of

227
00:25:41,149 --> 00:25:38,850
times that several of us on board said

228
00:25:44,870 --> 00:25:41,159
unbelievable on our way up here either

229
00:25:47,299 --> 00:25:44,880
with the seen the views the procedures

230
00:25:49,249 --> 00:25:47,309
we had that just the fact that we were

231
00:25:51,320 --> 00:25:49,259
doing this none of us can still believe

232
00:25:52,610 --> 00:25:51,330
it and I just had a shock when I look

233
00:25:55,129 --> 00:25:52,620
out the window over here and saw

234
00:25:58,070 --> 00:25:55,139
Atlantis it took us a while to get to

235
00:26:02,840 --> 00:25:58,080
the MIR core module here and I didn't

236
00:26:05,509 --> 00:26:02,850
realize how far away Atlantis was we'd

237
00:26:08,299 --> 00:26:05,519
like to thank all of the people down on

238
00:26:10,490 --> 00:26:08,309

the earth who it's a tremendous amount

239

00:26:11,930 --> 00:26:10,500

of teamwork required to put something

240

00:26:13,759 --> 00:26:11,940

like this together and we had

241

00:26:15,799 --> 00:26:13,769

discussions all the way up when we were

242

00:26:18,019 --> 00:26:15,809

in crew quarters in quarantine just

243

00:26:21,289 --> 00:26:18,029

before coming up regarding the

244

00:26:23,960 --> 00:26:21,299

procedures and what do we do if we have

245

00:26:26,749 --> 00:26:23,970

failures and and just both sides of the

246

00:26:29,330 --> 00:26:26,759

ocean worked on this flight for a long

247

00:26:31,700 --> 00:26:29,340

time and we want to thank everybody who

248

00:26:34,249 --> 00:26:31,710

worked on it we think this is a great

249

00:26:37,070 --> 00:26:34,259

crew with ten of us there was a lot of

250

00:26:38,960 --> 00:26:37,080

discussion about the risk we are here to

251
00:26:41,210 --> 00:26:38,970
tell you all ten of us that we think the

252
00:26:44,240 --> 00:26:41,220
benefit far outweighs the risk and

253
00:26:46,100 --> 00:26:44,250
that's why we're here and we're really

254
00:26:48,259 --> 00:26:46,110
enjoying it and this is a great ship I

255
00:26:50,950 --> 00:26:48,269
can't believe it I saw it two years ago

256
00:26:53,450 --> 00:26:50,960
from 30 feet which is not very far away

257
00:26:57,019 --> 00:26:53,460
but it turns out it was really far away

258
00:26:59,419 --> 00:26:57,029
compared to the last 30 feet and then

259
00:27:11,400 --> 00:26:59,429
coming all the way in to the mirror base

260
00:27:17,430 --> 00:27:14,820
she wouldn't Atlantis what she did not

261
00:27:19,770 --> 00:27:17,440
ask for the show extends a mere grip on

262
00:27:25,039 --> 00:27:19,780
all the jeepers people know delicately

263
00:27:28,770 --> 00:27:25,049

of Gnostic of CO the suniye machinists

264

00:27:32,730 --> 00:27:28,780

geranium producers program Amir NASA

265

00:27:35,880 --> 00:27:32,740

Kepler was goodness calculate emotional

266

00:27:38,900 --> 00:27:35,890

radish to shock the shock am he cast it

267

00:27:42,029 --> 00:27:38,910

as a question to your day the ovarian a

268

00:27:45,090 --> 00:27:42,039

Kotori videoed cars the shock video

269

00:27:50,930 --> 00:27:45,100

coupon in your own pony open in iam so -

270

00:27:55,649 --> 00:27:50,940

cup cat arrest SAT possum must clear the

271

00:27:58,169 --> 00:27:55,659

Houston yeah hello pastor Hyp Roxas it's

272

00:28:01,529 --> 00:27:58,179

a list of Kotori gradually t program

273

00:28:06,990 --> 00:28:01,539

managed Amelia deep a stretchy pocket or

274

00:28:09,060 --> 00:28:07,000

oppressive honest answer Miriam most

275

00:28:10,980 --> 00:28:09,070

balsam enthusiasm William apology

276

00:28:14,909 --> 00:28:10,990

program Oh cat or a Buddhist upon your

277

00:28:50,640 --> 00:28:14,919

Amana nation the depression prisoners my

278

00:28:54,090 --> 00:28:52,650

they're already hot these please and

279

00:28:57,940 --> 00:28:54,100

this this is really good stuff this is

280

00:29:45,960 --> 00:29:06,560

who's the power supply quickest on your

281

00:29:45,970 --> 00:30:50,310

these are you rushing

282

00:30:50,320 --> 00:31:03,280

usually specific shoulder that I was too

283

00:31:16,290 --> 00:31:05,290

what about you she was trying to get to

284

00:34:53,230 --> 00:31:19,320

this is faith have the wrong way

285

00:34:53,240 --> 00:35:01,240

now let's head up to near

286

00:35:01,250 --> 00:35:06,730

this is the docking module here

287

00:35:06,740 --> 00:35:09,440

we have

288

00:35:09,450 --> 00:35:15,560

it's the Cristal module

289

00:35:15,570 --> 00:35:20,130

credible view down

290

00:35:20,140 --> 00:37:03,740

planet Earth

291

00:37:09,330 --> 00:37:06,360

lantus mere Houston good morning and

292

00:37:10,530 --> 00:37:09,340

it's time for Scott and and melodia to

293

00:37:14,340 --> 00:37:10,540

go outside and have a good look at that

294

00:37:16,080 --> 00:37:14,350

wonderful world themselves what a

295

00:38:15,430 --> 00:37:16,090

wonderful world indeed Chris yes thank

296

00:38:15,440 --> 00:38:32,000

right

297

00:38:43,260 --> 00:38:35,400

go see drew it keeps coming back with

298

00:40:31,570 --> 00:38:43,270

fire right now okay Wendy we'll take a

299

00:40:31,580 --> 00:42:01,530

Wow

300

00:42:01,540 --> 00:42:26,200

like go like this okay

301

00:42:26,210 --> 00:42:32,769

and it started basically

302

00:43:02,539 --> 00:42:40,000

okay rook going out

303

00:43:19,350 --> 00:43:02,549

yes really okay okay okay you guys at

304

00:43:19,360 --> 00:43:58,890

this site I did in other sites no idea

305

00:44:36,140 --> 00:44:02,589

okay I think it's probably okay below

306

00:44:49,770 --> 00:44:47,570

okay I hear I'm right here okay good

307

00:45:04,940 --> 00:44:49,780

yep a little bit higher in the back to

308

00:45:09,390 --> 00:45:07,410

this is Mission Control Houston again

309

00:45:10,440 --> 00:45:09,400

this sequential still video being

310

00:45:12,800 --> 00:45:10,450

provided through the s-band

311

00:45:15,390 --> 00:45:12,810

communication system on Atlantis showing

312

00:45:17,730 --> 00:45:15,400

astronauts Scott Parazynski and Vladimir

313

00:45:21,089 --> 00:45:17,740

teach off hauling up to and now fixing

314

00:46:52,049 --> 00:45:21,099

the 121 pound a solar array cap to the

315

00:47:24,549 --> 00:47:22,269

Google what basic yeah look real nice

316

00:47:28,240 --> 00:47:24,559

you know from this perspective to it

317

00:47:29,400 --> 00:47:28,250

very pretty crisply and failed to grab

318

00:47:32,380 --> 00:47:29,410

it right away

319

00:47:49,290 --> 00:47:32,390

the Federer came out without any problem

320

00:48:02,470 --> 00:47:52,710

and Houston Atlantis do you have a

321

00:48:07,240 --> 00:48:02,480

downlink capabilities this time behind

322

00:48:09,550 --> 00:48:07,250

its mere Houston yes we do I'd like to

323

00:48:13,859 --> 00:48:09,560

show you the PM pyramid occupy that was

324

00:48:20,020 --> 00:48:16,060

now it's good

325

00:48:35,800 --> 00:48:20,030

great thanks yeah yes that'd be great

326

00:48:39,310 --> 00:48:38,260

add the tomatoes eggplants are one I

327

00:48:42,310 --> 00:48:39,320

can't wait

328

00:48:45,730 --> 00:48:42,320

you got it I got it there so you

329

00:48:48,430 --> 00:48:45,740

all wrapped up in it throw okay okay it

330

00:48:49,630 --> 00:48:48,440

look like I would take your weight touch

331

00:48:51,819 --> 00:48:49,640

it between your legs

332

00:49:42,699 --> 00:48:51,829

what might work the best is it true to

333

00:49:49,429 --> 00:49:46,009

yes I would like to open it and thank

334

00:49:51,739 --> 00:49:49,439

Commander anatoly's all of us and born

335

00:49:53,630 --> 00:49:51,749

engineer Pavel Vinogradov for inviting

336

00:49:55,159 --> 00:49:53,640

this I sent to their own for the last

337

00:49:57,649 --> 00:49:55,169

several days they have been very

338

00:49:59,479 --> 00:49:57,659

gracious they're a tremendous team they

339

00:50:01,159 --> 00:49:59,489

work well together they have taught us a

340

00:50:03,739 --> 00:50:01,169

lot and we thank them for being so

341

00:50:05,839 --> 00:50:03,749

gracious it requires an awful lot of

342

00:50:09,289 --> 00:50:05,849

teamwork to pull one of these missions

343

00:50:11,209 --> 00:50:09,299

together this board with the course no

344

00:50:13,749 --> 00:50:11,219

rendezvous is not just the pilots or the

345

00:50:16,309 --> 00:50:13,759

crews but all the folks on the ground

346

00:50:18,259 --> 00:50:16,319

and in the tracking stations all around

347

00:50:20,509 --> 00:50:18,269

the world to get the precise navigation

348

00:50:22,519 --> 00:50:20,519

required by the way I feel very

349

00:50:24,620 --> 00:50:22,529

confident that has the mayor lost

350

00:50:27,019 --> 00:50:24,630

attitude control we still would have

351
00:50:29,839 --> 00:50:27,029
been able to dock with the teamwork that

352
00:51:04,059 --> 00:50:29,849
we have and that we've developed over

353
00:51:04,069 --> 00:51:22,690
I need to get briefed somehow

354
00:51:28,130 --> 00:51:25,640
my lines take care of flop around

355
00:51:37,329 --> 00:51:28,140
picking her down there and he token I

356
00:51:37,339 --> 00:52:03,700
thanks for all the help

357
00:52:03,710 --> 00:52:12,220
No

358
00:52:12,230 --> 00:52:43,900
let's just say over this kid

359
00:53:00,350 --> 00:52:46,960
a good undocking morning to you Atlantis

360
00:53:08,040 --> 00:53:04,260
Atlantis Mary Houston from the time you

361
00:53:10,350 --> 00:53:08,050
give a go to the MIR crew to put the

362
00:53:12,540 --> 00:53:10,360
pressure pulse inside the spectrum

363
00:53:14,340 --> 00:53:12,550

module it takes about a minute and a

364

00:53:16,380 --> 00:53:14,350

half for that pressure to ramp up so it

365

00:53:29,170 --> 00:53:16,390

may be that period of time before you

366

00:53:37,809 --> 00:53:32,740

it's a 223 window open

367

00:53:40,720 --> 00:53:37,819

Chrissa 14 : 5 4 and closures at 1503 he

368

00:53:43,000 --> 00:53:40,730

didn't say yeah but that's what you have

369

00:53:58,080 --> 00:53:43,010

but he didn't say we're supposed to

370

00:53:58,090 --> 00:54:07,700

but I'm not

371

00:54:07,710 --> 00:54:14,230

just pray anyway

372

00:54:14,240 --> 00:54:22,200

tapes a little bit earlier that blue

373

00:54:29,380 --> 00:54:24,150

mark

374

00:54:41,529 --> 00:54:29,390

okay hooks twice great

375

00:55:07,239 --> 00:54:41,539

I was looking symmetrically Nia storage

376
00:55:14,950 --> 00:55:11,959
chased me at the 1920 feet anything one

377
00:55:19,270 --> 00:55:14,960
degree tail down

378
00:55:25,360 --> 00:55:19,280
correct somebody happy it is 29 feet 0.3

379
00:55:25,370 --> 00:55:35,350
digit middle

380
00:55:35,360 --> 00:55:47,380
they're like it was they're granted 507

381
00:55:50,980 --> 00:55:49,960
sure you probably if he pulls away from

382
00:55:54,010 --> 00:55:50,990
stuff

383
00:56:02,420 --> 00:55:54,020
it's all down once I lay will fold into

384
00:56:35,489 --> 00:56:04,750
let's look

385
00:56:35,499 --> 00:56:51,840
to the city for no fee George suggest

386
00:57:09,690 --> 00:56:54,180
and Houston will collapse but that band

387
00:57:48,069 --> 00:57:23,700
it's Televi somebody why you'd be your

388
00:57:48,079 --> 00:59:03,320

it's this board

389

00:59:11,850 --> 00:59:05,670

error data probes on the legends have

390

00:59:14,250 --> 00:59:11,860

now been deployed long-range cameras now

391

00:59:15,600 --> 00:59:14,260

picking up view of Atlantis as it

392

00:59:36,410 --> 00:59:15,610

continues to make its approach towards

393

00:59:47,370 --> 00:59:39,750

okay if it's good

394

00:59:51,240 --> 00:59:47,380

I'm decluttering there you go Atlantis

395

00:59:56,190 --> 00:59:51,250

Houston for bloomer did you see any

396

01:00:14,080 --> 00:59:56,200

anomalies during your belt test all

397

01:00:21,200 --> 01:00:19,490

he'll g4 say do you vote a 185 so you're

398

01:00:22,820 --> 01:00:21,210

going down at one and a half one and a

399

01:00:56,560 --> 01:00:22,830

half one and a half - you're a little