



1
00:00:57,670 --> 00:00:09,400

[Music]

2
00:01:01,830 --> 00:00:59,349

now it's time to bring christina cook

3
00:01:03,750 --> 00:01:01,840

luca parmitano and alexander sportzwave

4
00:01:05,910 --> 00:01:03,760

home

5
00:01:07,270 --> 00:01:05,920

welcome welcome back to mission control

6
00:01:08,870 --> 00:01:07,280

uh you're here in the international

7
00:01:10,469 --> 00:01:08,880

space station flight control room where

8
00:01:12,070 --> 00:01:10,479

the team here is getting ready and

9
00:01:16,390 --> 00:01:12,080

following along for the

10
00:01:19,350 --> 00:01:16,400

return of ms 13 soyuz back to uh landing

11
00:01:21,350 --> 00:01:19,360

in kazakhstan at 3 12 a.m central time

12
00:01:24,310 --> 00:01:21,360

today

13
00:01:25,590 --> 00:01:24,320

preparations have been going on

14

00:01:28,870 --> 00:01:25,600

since they undocked from the

15

00:01:31,190 --> 00:01:28,880

international space station at 11 50 and

16

00:01:33,350 --> 00:01:31,200

they are now heading towards a 2 18 am

17

00:01:35,749 --> 00:01:33,360

central time deorbit burn to get ready

18

00:01:37,910 --> 00:01:35,759

for that landing which will bring them

19

00:01:40,230 --> 00:01:37,920

home just southeast of jessica's gone

20

00:01:42,630 --> 00:01:40,240

kazakhstan wrapping up a record-setting

21

00:01:46,550 --> 00:01:44,710

this will be the last orbit of the earth

22

00:01:49,190 --> 00:01:46,560

for the expedition 61 crew members on

23

00:01:51,990 --> 00:01:49,200

board the soyuz for issa's luca

24

00:01:54,389 --> 00:01:52,000

parmitano and roscosmos's alexander

25

00:01:58,190 --> 00:01:54,399

swartzov who launched in this soyuz on

26

00:02:01,590 --> 00:01:58,200

july 20th this will be their

27

00:02:03,749 --> 00:02:01,600

3216th orbit but for nasa's christina

28

00:02:05,590 --> 00:02:03,759

cook who arrived on the space station on

29

00:02:09,270 --> 00:02:05,600

march 14th she'll land today having

30

00:02:10,469 --> 00:02:09,280

orbited the earth 5000

31

00:02:14,150 --> 00:02:10,479

times

32

00:02:16,350 --> 00:02:14,160

and traveled 139 million miles enough to

33

00:02:24,550 --> 00:02:16,360

journey to the moon and back

34

00:02:27,670 --> 00:02:25,830

you can see some of the additional

35

00:02:30,869 --> 00:02:27,680

accomplishments she racked up on her

36

00:02:32,550 --> 00:02:30,879

mission here again

37

00:02:34,550 --> 00:02:32,560

139

38

00:02:36,869 --> 00:02:34,560

million miles traveled

39

00:02:38,790 --> 00:02:36,879

in addition to of course setting records

40

00:02:39,509 --> 00:02:38,800

for the most time

41

00:02:42,229 --> 00:02:39,519

uh

42

00:02:43,509 --> 00:02:42,239

in space on a single space flight for a

43

00:02:46,150 --> 00:02:43,519

female

44

00:02:49,030 --> 00:02:46,160

seventh all-time record for a u.s

45

00:02:51,270 --> 00:02:49,040

astronaut on the endurance list

46

00:02:55,830 --> 00:02:51,280

and 50th on the all-time for all

47

00:02:59,990 --> 00:02:58,470

328 days is enough time to get a lot

48

00:03:01,509 --> 00:03:00,000

done so next we're going to take a look

49

00:03:11,350 --> 00:03:01,519

back at some of christina cook's

50

00:03:15,509 --> 00:03:13,830

without a doubt my most memorable day

51
00:03:16,949 --> 00:03:15,519
was day one

52
00:03:19,350 --> 00:03:16,959
with the assistance of space station

53
00:03:21,670 --> 00:03:19,360
commander oleg kononenko christina cook

54
00:03:23,589 --> 00:03:21,680
of nasa the first one through the hatch

55
00:03:26,229 --> 00:03:23,599
being greeted by her that was the day

56
00:03:28,309 --> 00:03:26,239
that i have seared in my memory visions

57
00:03:30,149 --> 00:03:28,319
when i first arrived here opening the

58
00:03:32,550 --> 00:03:30,159
hatch seeing some of my best friends on

59
00:03:34,710 --> 00:03:32,560
the other side floating through seeing

60
00:03:36,630 --> 00:03:34,720
my first glimpses of the actual interior

61
00:03:38,550 --> 00:03:36,640
of the space station after having

62
00:03:40,710 --> 00:03:38,560
traveled here for six hours on a small

63
00:03:42,550 --> 00:03:40,720

soyuz spacecraft that it actually exists

64

00:03:44,949 --> 00:03:42,560

for the betterment of humanity doing

65

00:03:46,949 --> 00:03:44,959

science and exploring that it was real

66

00:03:48,630 --> 00:03:46,959

and that i got to live here i'm very

67

00:03:50,630 --> 00:03:48,640

privileged to have that as one of my

68

00:03:53,110 --> 00:03:50,640

favorite memories

69

00:03:55,830 --> 00:03:53,120

the surprise that i've uncovered is the

70

00:03:58,470 --> 00:03:55,840

human body and mind's ability to adapt

71

00:04:01,830 --> 00:03:58,480

to any situation i sometimes joke that

72

00:04:03,429 --> 00:04:01,840

before jessica got here and before i you

73

00:04:05,270 --> 00:04:03,439

know heard her all the time explain

74

00:04:07,429 --> 00:04:05,280

exclaiming about how exciting and fun it

75

00:04:09,750 --> 00:04:07,439

was to float i think i had actually

76

00:04:11,589 --> 00:04:09,760

forgotten that i was floating the human

77

00:04:13,670 --> 00:04:11,599

mind just has an ability to really

78

00:04:16,550 --> 00:04:13,680

accommodate any situation and to turn it

79

00:04:18,229 --> 00:04:16,560

into normal so for example the fact that

80

00:04:19,430 --> 00:04:18,239

we can just work right on the ceiling

81

00:04:21,349 --> 00:04:19,440

like this

82

00:04:22,390 --> 00:04:21,359

and not even know the difference between

83

00:04:24,230 --> 00:04:22,400

the two

84

00:04:26,469 --> 00:04:24,240

so it's really been an exciting and a

85

00:04:28,550 --> 00:04:26,479

huge surprise to see that

86

00:04:30,710 --> 00:04:28,560

life up here can actually become normal

87

00:04:32,870 --> 00:04:30,720

i'd have to say any meal that we share

88

00:04:34,550 --> 00:04:32,880

together is a great one and of those

89

00:04:36,150 --> 00:04:34,560

some of my favorites i would say would

90

00:04:38,230 --> 00:04:36,160

be our pizza nights

91

00:04:39,749 --> 00:04:38,240

our folks on the ground send up care

92

00:04:41,830 --> 00:04:39,759

packages sometimes and they'll put

93

00:04:43,990 --> 00:04:41,840

together a little non-perishable pizza

94

00:04:46,150 --> 00:04:44,000

kit and we're able to actually make

95

00:04:48,070 --> 00:04:46,160

pizzas in our kind of makeshift space

96

00:04:50,469 --> 00:04:48,080

oven using tin foil and a little bit of

97

00:04:51,990 --> 00:04:50,479

creativity and seeing what everybody

98

00:04:53,110 --> 00:04:52,000

comes up with and sharing with each

99

00:04:54,629 --> 00:04:53,120

other and just something a little

100

00:04:55,990 --> 00:04:54,639

different a little bit out of the norm

101
00:04:58,390 --> 00:04:56,000
that we actually feel like we get to

102
00:05:00,710 --> 00:04:58,400
prepare ourselves as opposed to just

103
00:05:02,550 --> 00:05:00,720
opening up out of a packet it's really

104
00:05:04,390 --> 00:05:02,560
special and it's a lot of fun

105
00:05:06,710 --> 00:05:04,400
one really striking moment was the first

106
00:05:08,070 --> 00:05:06,720
time i saw my hometown in the area where

107
00:05:10,469 --> 00:05:08,080
i grew up which is coastal north

108
00:05:12,310 --> 00:05:10,479
carolina and seeing those outer banks

109
00:05:14,310 --> 00:05:12,320
come into focus around the horizon and

110
00:05:16,550 --> 00:05:14,320
suddenly realizing what i was looking at

111
00:05:18,629 --> 00:05:16,560
was a just breathtaking moment some of

112
00:05:21,189 --> 00:05:18,639
the other favorite things i have to look

113
00:05:22,950 --> 00:05:21,199

at would be definitely the auroras the

114

00:05:25,029 --> 00:05:22,960

northern lights and the southern lights

115

00:05:26,950 --> 00:05:25,039

i spent so many years working in the

116

00:05:29,110 --> 00:05:26,960

antarctic and the arctic and seeing

117

00:05:31,670 --> 00:05:29,120

those auroras from below

118

00:05:34,790 --> 00:05:31,680

and so to see them on a planetary scale

119

00:05:36,710 --> 00:05:34,800

from above is just truly mind-blowing

120

00:05:39,029 --> 00:05:36,720

you know just like those memories of day

121

00:05:40,870 --> 00:05:39,039

one there are a couple flashes that i'll

122

00:05:43,029 --> 00:05:40,880

just never ever forget

123

00:05:45,670 --> 00:05:43,039

the space walk with jessica meer was

124

00:05:47,830 --> 00:05:45,680

just an unbelievable honor and there

125

00:05:49,189 --> 00:05:47,840

were times when we looked at each other

126
00:05:51,430 --> 00:05:49,199
for example right when we came out the

127
00:05:52,550 --> 00:05:51,440
hatch we caught each other's eye and we

128
00:05:54,390 --> 00:05:52,560
knew that

129
00:05:57,110 --> 00:05:54,400
we really were honored with this

130
00:05:58,710 --> 00:05:57,120
opportunity to inspire so many and just

131
00:06:00,230 --> 00:05:58,720
hearing our voices talk to mission

132
00:06:01,670 --> 00:06:00,240
control and knowing that two female

133
00:06:03,830 --> 00:06:01,680
voices had never been on the loop

134
00:06:05,850 --> 00:06:03,840
solving those problems together outside

135
00:06:16,640 --> 00:06:05,860
was a really special

136
00:06:24,790 --> 00:06:22,230
[Applause]

137
00:06:26,550 --> 00:06:24,800
as you can see a lot accomplished in 328

138
00:06:28,070 --> 00:06:26,560

days in space and a lot of excitement

139

00:06:30,469 --> 00:06:28,080

from the team supporting cook from the

140

00:06:32,550 --> 00:06:30,479

ground that last congratulation message

141

00:06:34,469 --> 00:06:32,560

there at the end came from some of the

142

00:06:36,230 --> 00:06:34,479

international space station program team

143

00:06:37,430 --> 00:06:36,240

members here in houston

144

00:06:39,189 --> 00:06:37,440

we'd love to have you post your own

145

00:06:41,029 --> 00:06:39,199

congratulations for christina cook on

146

00:06:43,749 --> 00:06:41,039

social media and you can do so using the

147

00:06:45,029 --> 00:06:43,759

hashtag congrats christina we'll be on

148

00:06:46,870 --> 00:06:45,039

the lookout for those but in the

149

00:06:48,550 --> 00:06:46,880

meantime we have another congrats

150

00:06:50,870 --> 00:06:48,560

message from a previous from the

151
00:06:57,670 --> 00:06:50,880
previous holder of the record that cook

152
00:07:02,390 --> 00:06:59,909
congratulations christina on breaking

153
00:07:04,390 --> 00:07:02,400
the single flight record for a woman i'm

154
00:07:11,589 --> 00:07:04,400
very happy for you

155
00:07:15,830 --> 00:07:13,990
that of course was former nasa astronaut

156
00:07:17,430 --> 00:07:15,840
peggy woodson who until december held

157
00:07:18,870 --> 00:07:17,440
the record for longest single space

158
00:07:21,909 --> 00:07:18,880
flight by a woman

159
00:07:23,589 --> 00:07:21,919
cook surpassed whitson's 288 days back

160
00:07:25,189 --> 00:07:23,599
on december 28th

161
00:07:26,710 --> 00:07:25,199
and obviously has continued racking up

162
00:07:29,510 --> 00:07:26,720
more days since then she'll land with a

163
00:07:32,070 --> 00:07:29,520

total of 328 the new record for the

164

00:07:33,670 --> 00:07:32,080

longest single space flight by a woman

165

00:07:34,629 --> 00:07:33,680

second longest single space flight by an

166

00:07:36,629 --> 00:07:34,639

american

167

00:07:38,950 --> 00:07:36,639

and 7th on the all-time endurance list

168

00:07:40,469 --> 00:07:38,960

for americans there are six americans

169

00:07:41,830 --> 00:07:40,479

who have spent more time in space than

170

00:07:45,270 --> 00:07:41,840

cook has

171

00:07:46,869 --> 00:07:45,280

but they all made multiple space flights

172

00:07:50,150 --> 00:07:46,879

to achieve their totals while this was

173

00:07:54,230 --> 00:07:52,230

again you can send your

174

00:07:56,309 --> 00:07:54,240

congratulations to cook using the

175

00:08:32,630 --> 00:07:56,319

hashtag congrats

176

00:08:37,110 --> 00:08:34,550

cook parmitano and sports off said

177

00:08:39,350 --> 00:08:37,120

goodbye to their crewmates jessica meer

178

00:08:41,190 --> 00:08:39,360

andrew morgan and oleg skripochka

179

00:08:44,230 --> 00:08:41,200

earlier this afternoon with lots of

180

00:08:45,990 --> 00:08:44,240

final hugs photos and waves

181

00:08:47,430 --> 00:08:46,000

before closing the hatches between their

182

00:08:50,310 --> 00:08:47,440

vehicle and the international space

183

00:08:53,030 --> 00:08:50,320

station at 8 34 pm central time this is

184

00:08:55,269 --> 00:08:53,040

some video recorded during those those

185

00:08:56,949 --> 00:08:55,279

final farewells

186

00:08:59,030 --> 00:08:56,959

earlier today

187

00:09:01,670 --> 00:08:59,040

andrew morgan coming in to the

188

00:09:12,710 --> 00:09:01,680

screenshot there followed here by

189

00:09:18,630 --> 00:09:15,350

and there's oleg skripochka

190

00:09:21,269 --> 00:09:18,640

that was the last view that we expect to

191

00:09:23,030 --> 00:09:21,279

see of the expedition 61 crew cook

192

00:09:25,110 --> 00:09:23,040

parmitano

193

00:09:27,269 --> 00:09:25,120

and squirtsov before that we see them

194

00:09:30,790 --> 00:09:27,279

coming out of the soyuz on the ground in

195

00:09:34,230 --> 00:09:32,310

after closing the hatches they were able

196

00:09:36,550 --> 00:09:34,240

to get all the required leak checks and

197

00:09:38,389 --> 00:09:36,560

preparations done for an on-time

198

00:09:40,389 --> 00:09:38,399

undocking from the space station at 11

199

00:09:42,470 --> 00:09:40,399

50 p.m central

200

00:09:45,190 --> 00:09:42,480

setting them on their way for today's

201
00:09:46,710 --> 00:09:45,200
3 12 a.m landing they've since moved

202
00:09:47,829 --> 00:09:46,720
into position about 20 miles away from

203
00:09:49,670 --> 00:09:47,839
the station

204
00:09:51,829 --> 00:09:49,680
and are just about ready to go for the

205
00:09:55,750 --> 00:09:51,839
deorbit burn that will take place at 2

206
00:09:55,760 --> 00:10:28,949
just nine minutes from now

207
00:10:32,470 --> 00:10:30,389
here in the international space station

208
00:10:34,150 --> 00:10:32,480
flight control room flight director mike

209
00:10:35,990 --> 00:10:34,160
lammers is leading the team here in

210
00:10:37,910 --> 00:10:36,000
houston as they follow along in

211
00:10:39,910 --> 00:10:37,920
tonight's activities

212
00:10:43,430 --> 00:10:39,920
he's accompanying by one of our new

213
00:10:45,430 --> 00:10:43,440

flight directors uh marcos flores who is

214

00:10:47,829 --> 00:10:45,440

with him tonight and then next to them

215

00:10:51,910 --> 00:10:47,839

just standing up there in the view

216

00:10:51,920 --> 00:10:59,350

they're

217

00:11:02,870 --> 00:11:01,509

and in beautiful a number of officials

218

00:11:05,509 --> 00:11:02,880

and vehicles are standing by in

219

00:11:08,150 --> 00:11:05,519

preparation for the landing a total of

220

00:11:10,550 --> 00:11:08,160

12 mi 8 helicopters have been deployed

221

00:11:12,389 --> 00:11:10,560

to various areas to await the landing

222

00:11:15,269 --> 00:11:12,399

eight or at the expected landing site

223

00:11:17,990 --> 00:11:15,279

southeast of jessica's gun kazakhstan

224

00:11:19,750 --> 00:11:18,000

two more will be ready 250 miles away in

225

00:11:21,910 --> 00:11:19,760

an area where touchdown would take place

226

00:11:23,269 --> 00:11:21,920

if a ballistic injury occurred

227

00:11:25,110 --> 00:11:23,279

and the final two helicopters will

228

00:11:26,949 --> 00:11:25,120

loiter midway between the two we of

229

00:11:28,630 --> 00:11:26,959

course aren't expecting a ballistic

230

00:11:32,710 --> 00:11:28,640

entry but do you want to be prepared in

231

00:11:38,949 --> 00:11:35,750

please deactivate cool dry unit fans yes

232

00:11:38,959 --> 00:11:48,069

okay three five three

233

00:11:54,660 --> 00:11:51,590

s9 is already eliminated excellent copy

234

00:11:59,509 --> 00:11:56,790

[Music]

235

00:12:00,710 --> 00:11:59,519

and uh your goal to

236

00:12:02,949 --> 00:12:00,720

set up

237

00:12:05,350 --> 00:12:02,959

the free command

238

00:12:07,110 --> 00:12:05,360

a bit later okay

239

00:12:09,269 --> 00:12:07,120

crew inside the soyuz talking with the

240

00:12:11,430 --> 00:12:09,279

team supporting them in russia

241

00:12:13,670 --> 00:12:11,440

you can see that here the uh the landing

242

00:12:15,590 --> 00:12:13,680

site they're heading for today

243

00:12:17,269 --> 00:12:15,600

aboard the helicopters going out to the

244

00:12:19,030 --> 00:12:17,279

that nominal landing site are several

245

00:12:21,190 --> 00:12:19,040

nasa representatives including joel

246

00:12:23,750 --> 00:12:21,200

montalbano the deputy director of

247

00:12:25,750 --> 00:12:23,760

uh the space station program manager

248

00:12:28,310 --> 00:12:25,760

megan macarthur who's the deputy chief

249

00:12:30,550 --> 00:12:28,320

of the astronaut office and trisha mack

250

00:12:33,430 --> 00:12:30,560

nasa's human space flight

251
00:12:35,509 --> 00:12:33,440
program russia director as well as

252
00:12:57,190 --> 00:12:35,519
flight surgeons and nasa photographer

253
00:13:00,710 --> 00:12:58,949
unfortunately the weather that will

254
00:13:02,230 --> 00:13:00,720
greet them at the landing site won't be

255
00:13:04,150 --> 00:13:02,240
particularly welcoming

256
00:13:06,230 --> 00:13:04,160
temperature will be around 25 degrees

257
00:13:08,150 --> 00:13:06,240
fahrenheit or about negative three

258
00:13:09,829 --> 00:13:08,160
degrees celsius

259
00:13:11,350 --> 00:13:09,839
not the coldest landing ever but not

260
00:13:12,790 --> 00:13:11,360
particularly comfortable either and

261
00:13:14,710 --> 00:13:12,800
unfortunately for those of us watching

262
00:13:16,710 --> 00:13:14,720
at home the forecast also calls for

263
00:13:19,030 --> 00:13:16,720

cloud coverage which means we may not

264

00:13:21,350 --> 00:13:19,040

see much video of the capsule making its

265

00:13:22,230 --> 00:13:21,360

way down to the ground as we sometimes

266

00:13:23,430 --> 00:13:22,240

do

267

00:13:25,030 --> 00:13:23,440

but once they've arrived the landing

268

00:13:26,550 --> 00:13:25,040

team will quickly erect a medical tent

269

00:13:27,590 --> 00:13:26,560

at the landing site to get the crew out

270

00:13:29,190 --> 00:13:27,600

of the weather and keep them as

271

00:13:30,870 --> 00:13:29,200

comfortable as possible

272

00:13:34,710 --> 00:13:30,880

as they go through their regular post

273

00:13:34,720 --> 00:13:44,150

okay

274

00:13:50,710 --> 00:13:47,430

it is not eliminated and command was not

275

00:13:54,470 --> 00:13:52,629

three times

276
00:13:58,150 --> 00:13:54,480
when you send the command could you

277
00:14:00,389 --> 00:13:58,160
please call us with a confirmation

278
00:14:03,189 --> 00:14:00,399
one more question

279
00:14:06,150 --> 00:14:03,199
so once we activate it we're supposed to

280
00:14:08,870 --> 00:14:06,160
confirm it is that correct yes

281
00:14:28,470 --> 00:14:08,880
that's affirmative okay copy all right

282
00:14:32,150 --> 00:14:30,069
as i mentioned earlier the soyuz will be

283
00:14:34,389 --> 00:14:32,160
about 20 miles away from the station at

284
00:14:37,110 --> 00:14:34,399
the time of its deorbit burn that burn

285
00:14:39,269 --> 00:14:37,120
will start 25 seconds after 2 18 am

286
00:14:42,870 --> 00:14:39,279
central and finish 4 minutes and 39

287
00:14:45,030 --> 00:14:42,880
seconds later at 2 23 a.m

288
00:14:46,629 --> 00:14:45,040

the engine firing will act as a break on

289

00:14:49,110 --> 00:14:46,639

the soyuz

290

00:14:50,230 --> 00:14:49,120

while it's still 272 miles above the

291

00:14:53,110 --> 00:14:50,240

earth

292

00:14:56,550 --> 00:14:53,120

slowing it down by 128 meters per second

293

00:14:58,790 --> 00:14:56,560

or 286 miles per hour to drop it out of

294

00:15:01,030 --> 00:14:58,800

orbit

295

00:15:01,990 --> 00:15:01,040

you can see a graphic animation here of

296

00:15:07,509 --> 00:15:02,000

what that

297

00:15:12,790 --> 00:15:10,470

about 23 minutes later at 2 46 am

298

00:15:15,509 --> 00:15:12,800

central when the soyuz is now is at an

299

00:15:17,110 --> 00:15:15,519

altitude of 87 miles above the earth the

300

00:15:19,110 --> 00:15:17,120

vehicles computers will command the

301
00:15:19,990 --> 00:15:19,120
three modules of the soyuz to separate

302
00:15:21,509 --> 00:15:20,000
just

303
00:15:24,310 --> 00:15:21,519
above the first traces of the earth's

304
00:15:30,870 --> 00:15:26,150
you can see what uh its

305
00:15:32,870 --> 00:15:30,880
descent uh as it moves on looks like

306
00:15:34,069 --> 00:15:32,880
the orbital module on top is where the

307
00:15:35,749 --> 00:15:34,079
crew

308
00:15:37,590 --> 00:15:35,759
has a small amount of room to move

309
00:15:38,829 --> 00:15:37,600
around in during its flight to the

310
00:15:40,870 --> 00:15:38,839
station after launch and the

311
00:15:43,749 --> 00:15:40,880
instrumentation and propulsion module on

312
00:15:46,389 --> 00:15:43,759
bottom which houses the oxygen storage

313
00:15:48,230 --> 00:15:46,399

tanks attitude control thrusters

314

00:15:49,350 --> 00:15:48,240

avionics and communications and control

315

00:15:50,949 --> 00:15:49,360

equipment

316

00:15:53,030 --> 00:15:50,959

will separate from the scent module in

317

00:15:55,509 --> 00:15:53,040

the middle where the crew is seated

318

00:15:57,269 --> 00:15:55,519

it contains personally contoured seats

319

00:15:59,269 --> 00:15:57,279

for the crew members use during launch

320

00:16:01,110 --> 00:15:59,279

entry and landing as well as all the

321

00:16:02,389 --> 00:16:01,120

controls and displays

322

00:16:04,550 --> 00:16:02,399

necessary

323

00:16:06,629 --> 00:16:04,560

for critical flight activities it also

324

00:16:08,550 --> 00:16:06,639

has life support provisions batteries

325

00:16:10,949 --> 00:16:08,560

for re-entry and landing and parachutes

326
00:16:14,550 --> 00:16:10,959
for soft landing rocket engines to slow

327
00:16:15,829 --> 00:16:14,560
the vehicle just before touchdown

328
00:16:17,670 --> 00:16:15,839
the orbital module and the

329
00:16:19,110 --> 00:16:17,680
instrumentation and propulsion module

330
00:16:21,030 --> 00:16:19,120
will both burn up in the earth's

331
00:16:22,790 --> 00:16:21,040
atmosphere while that descent module

332
00:16:29,030 --> 00:16:22,800
continues on with cook parmitano and

333
00:16:35,350 --> 00:16:31,990
three minutes later at 2 49 a.m

334
00:16:37,509 --> 00:16:35,360
about 62 miles or 326 000 feet above the

335
00:16:40,870 --> 00:16:37,519
earth the soyuz will begin atmospheric

336
00:16:42,870 --> 00:16:40,880
reentry the sense module's computer

337
00:16:45,350 --> 00:16:42,880
will orient the capsule with its

338
00:16:46,949 --> 00:16:45,360

ablative heat shield pointing forward to

339

00:16:48,310 --> 00:16:46,959

protect it from the heat

340

00:16:49,829 --> 00:16:48,320

as it begins to fly through the earth's

341

00:16:52,389 --> 00:16:49,839

atmosphere and the crew will begin to

342

00:16:53,749 --> 00:16:52,399

feel the first effects of gravity again

343

00:16:55,829 --> 00:16:53,759

that will build

344

00:16:57,509 --> 00:16:55,839

through 2 56 am

345

00:16:59,590 --> 00:16:57,519

when they'll experience the maximum

346

00:17:01,829 --> 00:16:59,600

pressure for g-load for the descent

347

00:17:06,789 --> 00:17:01,839

they'll probably fall briefly four to

348

00:17:10,230 --> 00:17:08,390

well i don't see anything just two

349

00:17:12,710 --> 00:17:10,240

minutes later 14 minutes before

350

00:17:14,470 --> 00:17:12,720

touchdown when the soyuz is 35 000 feet

351
00:17:15,590 --> 00:17:14,480
above the earth and traveling at a speed

352
00:17:18,870 --> 00:17:15,600
of about

353
00:17:20,150 --> 00:17:18,880
514 miles per hour soyuz computer will

354
00:17:22,150 --> 00:17:20,160
command the first of a series of

355
00:17:23,909 --> 00:17:22,160
parachutes to deploy two pilot

356
00:17:27,189 --> 00:17:23,919
parachutes will come first

357
00:17:29,110 --> 00:17:27,199
one 6.7 square feet and one 48.4 square

358
00:17:31,270 --> 00:17:29,120
feet and together they'll drag out the

359
00:17:34,070 --> 00:17:31,280
drogue chute to 258 square foot

360
00:17:37,669 --> 00:17:34,080
parachute that slows the soyuz down

361
00:17:39,270 --> 00:17:37,679
to 178 miles per hour

362
00:17:41,029 --> 00:17:39,280
the drone shoot will also create a

363
00:17:42,549 --> 00:17:41,039

gentle spin for the soyuz as it dangles

364

00:17:44,870 --> 00:17:42,559

underneath which will help stabilize the

365

00:17:47,110 --> 00:17:44,880

capsule in its final minutes before

366

00:17:48,390 --> 00:17:47,120

touchdown then just before that

367

00:17:49,430 --> 00:17:48,400

touchdown the drogue shoots will be

368

00:17:52,110 --> 00:17:49,440

jettisoned to make way for the

369

00:17:55,190 --> 00:17:52,120

deployment of the

370

00:17:57,029 --> 00:17:55,200

3281 foot main parachute it will

371

00:18:00,070 --> 00:17:57,039

continue slowing down the capsule to a

372

00:18:01,669 --> 00:18:00,080

speed of about 60 miles per hour

373

00:18:03,669 --> 00:18:01,679

at first the capsule will hang beneath

374

00:18:06,070 --> 00:18:03,679

it at a 30 degree angle to the horizon

375

00:18:07,510 --> 00:18:06,080

to help with aerodynamic stability

376

00:18:09,029 --> 00:18:07,520

but after one of the two harnesses

377

00:18:11,029 --> 00:18:09,039

connecting the parachute the capsule is

378

00:18:12,470 --> 00:18:11,039

severed the soyuz will ride itself so

379

00:18:17,909 --> 00:18:12,480

that it's in a vertical position through

380

00:18:39,990 --> 00:18:19,510

we're coming up on that deorbit burn in

381

00:18:46,070 --> 00:18:43,110

30 seconds remaining prior to engine

382

00:18:48,310 --> 00:18:46,080

firing copy wall and i'm monitoring all

383

00:18:51,510 --> 00:18:48,320

the parameters

384

00:18:53,909 --> 00:18:51,520

switching to maneuver display

385

00:18:55,830 --> 00:18:53,919

caddy wu combined propulsion unit

386

00:19:03,669 --> 00:18:55,840

parameters are nominal

387

00:19:06,070 --> 00:19:04,470

yes

388

00:19:06,870 --> 00:19:06,080

three

389

00:19:10,710 --> 00:19:06,880

five

390

00:19:16,549 --> 00:19:10,720

three standing by for engine firing

391

00:19:19,990 --> 00:19:17,990

our team's confirming that the orbit

392

00:19:22,470 --> 00:19:20,000

burn started

393

00:19:25,350 --> 00:19:22,480

that'll last 4 minutes and 39 seconds

394

00:19:26,870 --> 00:19:25,360

until 2 23 a.m

395

00:19:29,190 --> 00:19:26,880

the engine firing acts as a break to

396

00:19:32,950 --> 00:19:29,200

slow the soyuz down while it's about 272

397

00:19:37,669 --> 00:19:34,710

that will drop it out of orbit and send

398

00:19:41,110 --> 00:19:37,679

its on away send it on its way to that

399

00:19:43,830 --> 00:19:41,120

landing just southeast of jessica's gun

400

00:19:46,230 --> 00:19:43,840

consumption 31 kilograms acceleration

401
00:19:49,270 --> 00:19:46,240
14.1

402
00:19:51,590 --> 00:19:50,150
and

403
00:19:53,110 --> 00:19:51,600
the burn

404
00:19:57,350 --> 00:19:53,120
value is

405
00:20:00,390 --> 00:19:57,360
14.1 nozzle pressure 12.6

406
00:20:04,710 --> 00:20:00,400
spherical tanks pressure 175

407
00:20:09,029 --> 00:20:04,720
and 0.45 and the current pressure is

408
00:20:16,230 --> 00:20:10,630
one minute

409
00:20:19,510 --> 00:20:16,240
0.45 this is the acceleration

410
00:20:23,029 --> 00:20:19,520
where delta v and prop consumption is

411
00:20:25,750 --> 00:20:23,039
55 kilograms

412
00:20:28,870 --> 00:20:25,760
one minute 15

413
00:20:32,390 --> 00:20:28,880

12 inaudible this is the nozzle pressure

414

00:20:39,590 --> 00:20:32,400

0.45 139

415

00:20:44,510 --> 00:20:40,630

one minute

416

00:20:46,390 --> 00:20:44,520

and 30 39.9 0.5

417

00:20:48,549 --> 00:20:46,400

0.45

418

00:20:53,510 --> 00:20:48,559

crop consumption

419

00:20:56,789 --> 00:20:54,870

one minute forty-five seconds

420

00:21:00,950 --> 00:20:56,799

non-suppression twelve point six

421

00:21:00,960 --> 00:21:06,870

it is decreasing acceleration 3.45

422

00:21:10,390 --> 00:21:08,789

and 50. two minutes now into the burn

423

00:21:15,029 --> 00:21:10,400

again we're aiming for four minutes and

424

00:21:17,909 --> 00:21:15,039

39 seconds this will begin slowing soyuz

425

00:21:24,230 --> 00:21:17,919

six down it into the earth's atmosphere

426
00:21:29,669 --> 00:21:26,549
two minutes uh 15 seconds nozzle

427
00:21:31,190 --> 00:21:29,679
pressure 12.6 spherical tanks pressure

428
00:21:35,190 --> 00:21:31,200
one two two

429
00:21:37,590 --> 00:21:35,200
uh that's w zero point forty five

430
00:21:39,830 --> 00:21:37,600
and the current time is sixty four point

431
00:21:42,310 --> 00:21:39,840
four

432
00:21:44,950 --> 00:21:42,320
two minutes uh thirty seconds uh six

433
00:21:47,029 --> 00:21:44,960
seven point five zero point forty six

434
00:21:50,149 --> 00:21:47,039
pop consumption

435
00:21:52,710 --> 00:21:50,159
at 57 everything is nominal

436
00:21:54,789 --> 00:21:52,720
copy wall

437
00:21:58,950 --> 00:21:54,799
two minutes 45 seconds nozzle pressure

438
00:22:03,110 --> 00:21:58,960

12.7 circle tank pressure 170 all

439

00:22:06,230 --> 00:22:03,120

parameters are nominal delta v 0.46

440

00:22:08,549 --> 00:22:06,240

and current time is inaudible

441

00:22:10,830 --> 00:22:08,559

three minutes into the burn one minute

442

00:22:12,510 --> 00:22:10,840

and uh 39 seconds left

443

00:22:15,549 --> 00:22:12,520

8.5

444

00:22:20,870 --> 00:22:15,559

0.46 this is the delta v

445

00:22:20,880 --> 00:22:31,630

and all parameters are nominal

446

00:22:47,350 --> 00:22:33,510

0.46

447

00:22:55,029 --> 00:22:47,360

and prop consumption is also nominal all

448

00:23:00,669 --> 00:22:57,149

30 minutes 45 seconds

449

00:23:02,630 --> 00:23:00,679

12.7 this is the nozzle pressure and

450

00:23:04,990 --> 00:23:02,640

97.90

451
00:23:08,789 --> 00:23:07,190
104.9 four minutes down now we're

452
00:23:11,710 --> 00:23:08,799
hearing those crew reports that all is

453
00:23:15,350 --> 00:23:11,720
looking nominal four minutes uh

454
00:23:17,350 --> 00:23:15,360
107.9 0.46252

455
00:23:25,510 --> 00:23:17,360
this is the prop consumption

456
00:23:30,950 --> 00:23:28,230
four minutes and eleven seconds nozzle

457
00:23:34,830 --> 00:23:30,960
pressure twelve point eight twelve point

458
00:23:39,110 --> 00:23:36,830
inaudible

459
00:23:42,789 --> 00:23:39,120
0.45 what is six

460
00:23:45,190 --> 00:23:42,799
and 120 is five five seconds left

461
00:23:47,350 --> 00:23:45,200
284 this is the prop consumption value

462
00:23:51,029 --> 00:23:47,360
the thing is nominal standing by for uh

463
00:23:56,390 --> 00:23:55,190

deactivation the activation confirmed

464

00:24:00,060 --> 00:23:56,400

okay

465

00:24:08,710 --> 00:24:01,590

[Music]

466

00:24:15,029 --> 00:24:11,990

burn value is one two eight one two

467

00:24:16,950 --> 00:24:15,039

seven point nine nine below pressure is

468

00:24:20,310 --> 00:24:16,960

decreasing

469

00:24:24,630 --> 00:24:22,630

took place and uh wrapped up exactly on

470

00:24:26,390 --> 00:24:24,640

time and went exactly as planned that

471

00:24:28,870 --> 00:24:26,400

means that the soyuz crew is definitely

472

00:24:30,789 --> 00:24:28,880

on their way home now they've been uh

473

00:24:32,789 --> 00:24:30,799

using that burn to drop back into

474

00:24:34,230 --> 00:24:32,799

earth's atmosphere slow down and begin

475

00:24:36,710 --> 00:24:34,240

their descent

476
00:24:38,870 --> 00:24:36,720
which will lead to that 3 12 am central

477
00:24:43,269 --> 00:24:38,880
time landing just southeast of jessica's

478
00:24:46,149 --> 00:24:44,390
there will be a little bit of weight

479
00:24:47,990 --> 00:24:46,159
here now before the next big milestone

480
00:24:50,630 --> 00:24:48,000
that will come in about 23 minutes at 2

481
00:24:53,110 --> 00:24:50,640
46 a.m and that is when the

482
00:24:55,909 --> 00:24:53,120
soyuz computers will command its three

483
00:24:58,230 --> 00:24:55,919
modules to separate

484
00:24:59,909 --> 00:24:58,240
crew members are in the center module

485
00:25:02,070 --> 00:24:59,919
they'll get rid of the modules on either

486
00:25:03,190 --> 00:25:02,080
side of them that will uh

487
00:25:05,830 --> 00:25:03,200
ensure that

488
00:25:08,149 --> 00:25:05,840

their their heat shield is exposed and

489

00:25:10,070 --> 00:25:08,159

ready to protect them and the

490

00:25:11,590 --> 00:25:10,080

parachutes will be able be able to

491

00:25:13,269 --> 00:25:11,600

deploy

492

00:25:14,870 --> 00:25:13,279

and slow down their descent once they

493

00:25:24,230 --> 00:25:14,880

are

494

00:25:29,909 --> 00:25:27,110

again that deorbit burn took place right

495

00:25:31,669 --> 00:25:29,919

on time at 2 18 am central time and

496

00:25:52,230 --> 00:25:31,679

wrapped up right on time as well 4

497

00:25:52,240 --> 00:26:06,630

what do you think

498

00:26:09,269 --> 00:26:07,830

should be

499

00:26:10,870 --> 00:26:09,279

ready

500

00:26:15,350 --> 00:26:10,880

at this point

501
00:26:19,510 --> 00:26:16,870
six minutes

502
00:26:21,830 --> 00:26:19,520
prior to the separation time yes we

503
00:26:28,710 --> 00:26:21,840
still have time

504
00:26:28,720 --> 00:26:47,990
actually 11 38.

505
00:26:50,710 --> 00:26:48,710
and

506
00:26:53,269 --> 00:26:50,720
i would like to remind you

507
00:26:55,430 --> 00:26:53,279
that you should provide the running

508
00:27:03,669 --> 00:26:55,440
commentary of your actions even if there

509
00:27:08,390 --> 00:27:06,070
once again that uh four minute and 39

510
00:27:10,310 --> 00:27:08,400
second deorbit burn is the key to

511
00:27:12,149 --> 00:27:10,320
getting the crew on their way back home

512
00:27:13,990 --> 00:27:12,159
and wrapping up what will be a

513
00:27:15,830 --> 00:27:14,000

record-setting mission for

514

00:27:19,110 --> 00:27:15,840

for the crew members and particularly

515

00:27:21,510 --> 00:27:19,120

christina cook who will have spent 328

516

00:27:23,909 --> 00:27:21,520

days in space the longest

517

00:27:25,750 --> 00:27:23,919

single space flight for any female you

518

00:27:27,990 --> 00:27:25,760

can see this video from her launch back

519

00:27:29,990 --> 00:27:28,000

on march 14th

520

00:27:32,149 --> 00:27:30,000

in 2019

521

00:27:36,310 --> 00:27:32,159

she launched actually with nick hague

522

00:27:43,590 --> 00:27:40,230

as part of the then expedition 59 crew

523

00:27:45,590 --> 00:27:43,600

she saw not only that expedition 59

524

00:27:48,149 --> 00:27:45,600

come to an end but also of course

525

00:27:49,669 --> 00:27:48,159

expedition 60 and then uh 61 which just

526
00:27:51,590 --> 00:27:49,679
wrapped up with her

527
00:27:54,149 --> 00:27:51,600
departure along with luca parmitano and

528
00:27:56,310 --> 00:27:54,159
alexander sportsov

529
00:27:58,950 --> 00:27:56,320
this launcher set off

530
00:28:04,389 --> 00:28:01,430
the count that uh eventually racked up

531
00:28:06,310 --> 00:28:04,399
200 328 days in space setting that

532
00:28:07,909 --> 00:28:06,320
record but at the time of her launch

533
00:28:09,510 --> 00:28:07,919
christina did not know that she would be

534
00:28:10,310 --> 00:28:09,520
staying in space for quite such a long

535
00:28:12,310 --> 00:28:10,320
time

536
00:28:14,470 --> 00:28:12,320
she handled the news well though was

537
00:28:16,710 --> 00:28:14,480
excited to get the extra time and space

538
00:28:18,789 --> 00:28:16,720

and has used it to accomplish quite a

539

00:28:22,070 --> 00:28:18,799

bit including uh

540

00:28:25,669 --> 00:28:22,080

six space walks totaling 42 hours and 15

541

00:28:30,870 --> 00:28:27,029

including uh

542

00:28:32,710 --> 00:28:30,880

three that were with her and jessica

543

00:28:34,950 --> 00:28:32,720

meer

544

00:28:39,029 --> 00:28:34,960

the first three space walks to be

545

00:28:40,789 --> 00:28:39,039

conducted by an all-female team

546

00:28:43,430 --> 00:28:40,799

you can see some of the highlights of

547

00:28:46,070 --> 00:28:43,440

her of her mission here again that's 328

548

00:28:48,389 --> 00:28:46,080

days in space six spacewalks for 42

549

00:28:51,269 --> 00:28:48,399

hours and 15 minutes all of that done

550

00:28:53,190 --> 00:28:51,279

over the course of 5248

551
00:28:54,549 --> 00:28:53,200
orbits around the earth

552
00:28:58,389 --> 00:28:54,559
a total of

553
00:29:00,630 --> 00:28:58,399
more than 139 million miles

554
00:29:02,389 --> 00:29:00,640
yes that's correct in that number of

555
00:29:03,389 --> 00:29:02,399
miles she could gone to the moon and

556
00:29:05,510 --> 00:29:03,399
back

557
00:29:07,269 --> 00:29:05,520
291 times

558
00:29:09,029 --> 00:29:07,279
again that uh record does leave her with

559
00:29:12,230 --> 00:29:09,039
the longest single space flight by a

560
00:29:14,470 --> 00:29:12,240
woman and also the seventh longest time

561
00:29:17,510 --> 00:29:14,480
spent in space by u.s astronaut there

562
00:29:20,149 --> 00:29:17,520
are six us astronauts ahead of her but

563
00:29:22,070 --> 00:29:20,159

all of them completed their time

564

00:29:26,470 --> 00:29:22,080

over more than one mission

565

00:29:28,470 --> 00:29:26,480

this is of course her first uh mission

566

00:29:30,149 --> 00:29:28,480

and she wrecked it up all in that time

567

00:29:31,750 --> 00:29:30,159

that also leaves her 50th on the

568

00:29:40,789 --> 00:29:31,760

all-time endurance list for all

569

00:29:44,389 --> 00:29:42,470

and to give you an idea of where she

570

00:29:46,710 --> 00:29:44,399

stands uh in addition to having the

571

00:29:48,789 --> 00:29:46,720

longest single space flight to buy a

572

00:29:50,789 --> 00:29:48,799

woman she is second on the list of

573

00:29:53,750 --> 00:29:50,799

longest single space flights by an

574

00:29:57,830 --> 00:29:53,760

american just a few days under scott

575

00:30:00,789 --> 00:29:57,840

kelly's record of 340 days and she beat

576
00:30:11,830 --> 00:30:00,799
peggy whitson's previous record of 288

577
00:30:16,310 --> 00:30:14,310
still about 15 minutes before we see

578
00:30:21,590 --> 00:30:16,320
that command from

579
00:30:24,710 --> 00:30:23,350
that uh will

580
00:30:28,470 --> 00:30:24,720
that will command the modules of the

581
00:30:32,950 --> 00:30:31,430
that will again come at 2 45 a.m central

582
00:30:35,430 --> 00:30:32,960
time but in the meantime we are getting

583
00:30:38,710 --> 00:30:35,440
confirmation here on the ground that the

584
00:30:43,029 --> 00:30:41,269
will be meeting cook parmitano and

585
00:30:44,870 --> 00:30:43,039
sports of

586
00:30:50,620 --> 00:30:44,880
at the landing site is

587
00:30:50,630 --> 00:31:10,310
[Applause]

588
00:31:14,950 --> 00:31:13,750

to go over again the uh the different uh

589

00:31:16,710 --> 00:31:14,960

members of the team who are going to be

590

00:31:18,950 --> 00:31:16,720

meeting at the crew when they do touch

591

00:31:22,070 --> 00:31:18,960

down here's another look at it a total

592

00:31:24,870 --> 00:31:22,080

of 12 mi 8 helicopters are on their way

593

00:31:26,710 --> 00:31:24,880

to various possible landing sites

594

00:31:29,190 --> 00:31:26,720

eight are going to be at the expected

595

00:31:31,190 --> 00:31:29,200

landing site southeast of jessica's gun

596

00:31:33,350 --> 00:31:31,200

two more will be ready about 250 miles

597

00:31:35,190 --> 00:31:33,360

away in an area where touchdown would

598

00:31:37,509 --> 00:31:35,200

take place a ballistic entry occurred

599

00:31:39,269 --> 00:31:37,519

which we're not expecting and uh the

600

00:31:40,710 --> 00:31:39,279

final two helicopters loiter midway

601
00:31:43,269 --> 00:31:40,720
between the two

602
00:31:45,590 --> 00:31:43,279
then in addition to that

603
00:31:48,549 --> 00:31:45,600
we also are sending out six all-terrain

604
00:31:51,430 --> 00:31:48,559
vehicles three antonov airplanes that

605
00:31:53,590 --> 00:31:51,440
serve as flying command centers and uh

606
00:31:55,830 --> 00:31:53,600
these uh that's a look at that

607
00:31:58,389 --> 00:31:55,840
all-terrain vehicles there uh the

608
00:32:00,789 --> 00:31:58,399
antonov airplanes will also uh provide

609
00:33:15,190 --> 00:32:00,799
communication between the crew and

610
00:33:15,200 --> 00:33:19,830
[Applause]

611
00:33:25,269 --> 00:33:21,029
once again we're counting down the

612
00:33:27,190 --> 00:33:25,279
minutes until about 2 46 a.m when the uh

613
00:33:28,549 --> 00:33:27,200

modules of the soyuz will separate

614

00:33:30,870 --> 00:33:28,559

following the command from the soyuz

615

00:33:32,789 --> 00:33:30,880

computers the orbital module on top

616

00:33:35,350 --> 00:33:32,799

where the crew has a small amount of

617

00:33:37,590 --> 00:33:35,360

room to move around during its flight to

618

00:33:39,350 --> 00:33:37,600

the space station after launch and the

619

00:33:41,509 --> 00:33:39,360

instrumentation and propulsion module on

620

00:33:43,669 --> 00:33:41,519

the bottom which houses the oxygen

621

00:33:45,350 --> 00:33:43,679

storage tanks attitude control thrusters

622

00:33:48,070 --> 00:33:45,360

avionics communications and control

623

00:33:50,630 --> 00:33:48,080

equipment both of those separate leaving

624

00:33:58,270 --> 00:33:50,640

the descent module in the middle on its

625

00:33:58,280 --> 00:34:02,950

[Applause]

626

00:34:07,350 --> 00:34:05,509

here's a look at what that

627

00:34:10,149 --> 00:34:07,360

that descent module looks like you can

628

00:34:11,270 --> 00:34:10,159

see the three seats the crew sit in they

629

00:34:13,030 --> 00:34:11,280

have uh

630

00:34:14,550 --> 00:34:13,040

seats that are molded especially for

631

00:34:17,349 --> 00:34:14,560

them to try and give them as much

632

00:34:19,030 --> 00:34:17,359

cushion as possible during landing

633

00:34:22,790 --> 00:34:19,040

it's not a large area but they don't

634

00:34:25,109 --> 00:34:22,800

have to be in it alone for very long

635

00:34:27,829 --> 00:34:25,119

so look at some of the controls that

636

00:34:30,069 --> 00:34:27,839

they that they have a view of as they

637

00:34:37,190 --> 00:34:30,079

make that descent we saw a few of some

638

00:34:41,430 --> 00:34:39,589

in addition to the uh

639

00:34:43,430 --> 00:34:41,440

the controls and displays and the seats

640

00:34:45,750 --> 00:34:43,440

it also has life support provisions

641

00:34:47,669 --> 00:34:45,760

batteries for re-entry and landing and a

642

00:34:49,270 --> 00:34:47,679

parachute and soft landing rockets

643

00:34:50,710 --> 00:34:49,280

that's helped slow the vehicle down just

644

00:34:53,190 --> 00:34:50,720

before touchdown

645

00:34:55,270 --> 00:34:53,200

try and make it a little softer on them

646

00:34:56,710 --> 00:34:55,280

the other two modules the orbital module

647

00:34:58,550 --> 00:34:56,720

and the instrumentation and propulsion

648

00:35:00,470 --> 00:34:58,560

module both burn up in the earth's

649

00:35:15,109 --> 00:35:00,480

atmosphere while the descent module

650

00:35:18,870 --> 00:35:17,270

you can see that orbital module here

651
00:35:20,870 --> 00:35:18,880
that again provides them a little extra

652
00:35:22,630 --> 00:35:20,880
space to move around in on their way to

653
00:35:24,710 --> 00:35:22,640
the space station but once they're on

654
00:35:27,430 --> 00:35:24,720
their way home they do uh get rid of

655
00:35:29,829 --> 00:35:27,440
that leaving just the descent module

656
00:35:31,990 --> 00:35:29,839
here in the middle also

657
00:36:01,080 --> 00:35:32,000
jettisoning the instrumentation and

658
00:36:17,270 --> 00:36:06,290
[Applause]

659
00:36:17,280 --> 00:36:31,810
um

660
00:37:43,270 --> 00:36:34,470
[Applause]

661
00:37:46,870 --> 00:37:45,750
all continuing to go well as we wait for

662
00:37:49,990 --> 00:37:46,880
that

663
00:37:53,030 --> 00:37:50,000

next big milestone 2 46 a.m central time

664

00:37:55,109 --> 00:37:53,040

when the soyuz descent module

665

00:37:56,550 --> 00:37:55,119

will get rid of the

666

00:37:58,390 --> 00:37:56,560

orbital module and the instrumentation

667

00:38:00,230 --> 00:37:58,400

propulsion module

668

00:38:37,510 --> 00:38:00,240

allow the crew conti the crew to

669

00:38:41,109 --> 00:38:39,270

well

670

00:38:57,670 --> 00:38:41,119

let's get ready

671

00:38:57,680 --> 00:39:09,829

closing divisors

672

00:39:14,230 --> 00:39:11,430

of the helmets

673

00:39:22,390 --> 00:39:14,240

closing

674

00:39:22,400 --> 00:39:26,790

even maybe

675

00:39:26,800 --> 00:40:25,190

and now s3 command

676

00:40:25,200 --> 00:40:54,470

releasing the ptc

677

00:40:59,510 --> 00:40:56,870

break down here of uh the events that

678

00:41:01,109 --> 00:40:59,520

we're going to be watching for

679

00:41:02,950 --> 00:41:01,119

as the soyuz makes its way back down to

680

00:41:06,069 --> 00:41:02,960

the earth starting with that deorbit

681

00:41:08,230 --> 00:41:06,079

burn that took place at 2 18 a.m central

682

00:41:10,550 --> 00:41:08,240

time right on time we're heading now

683

00:41:12,790 --> 00:41:10,560

towards the module separation the second

684

00:41:15,030 --> 00:41:12,800

milestone there on the list that's

685

00:41:16,870 --> 00:41:15,040

coming up in about six minutes now

686

00:41:18,309 --> 00:41:16,880

that's when uh the

687

00:41:20,630 --> 00:41:18,319

middle

688

00:41:22,710 --> 00:41:20,640

part of the soyuz carrying the crew

689

00:41:24,630 --> 00:41:22,720

we'll get rid of the other two segments

690

00:41:25,750 --> 00:41:24,640

so that all the systems it needs for

691

00:42:07,829 --> 00:41:25,760

landing

692

00:42:11,510 --> 00:42:09,670

once we do see that module separation

693

00:42:12,630 --> 00:42:11,520

things will begin happening pretty fast

694

00:42:14,950 --> 00:42:12,640

at

695

00:42:17,190 --> 00:42:14,960

2 49 a.m central about three minutes

696

00:42:19,190 --> 00:42:17,200

later while the soyuz is

697

00:42:21,670 --> 00:42:19,200

62 miles above the earth it'll begin

698

00:42:22,790 --> 00:42:21,680

experiencing atmospheric entry

699

00:42:25,270 --> 00:42:22,800

that's when the descent modules

700

00:42:27,670 --> 00:42:25,280

computers will orient the capsule with

701
00:42:28,790 --> 00:42:27,680
its heat shield pointing towards

702
00:42:31,990 --> 00:42:28,800
the

703
00:42:33,910 --> 00:42:32,000
to protect it from heat as it begins to

704
00:42:35,109 --> 00:42:33,920
fly through the earth's atmosphere and

705
00:42:37,030 --> 00:42:35,119
the crew begins to feel the first

706
00:42:39,349 --> 00:42:37,040
effects of gravity

707
00:42:40,630 --> 00:42:39,359
that's going to be building through uh 2

708
00:42:42,309 --> 00:42:40,640
56

709
00:42:46,470 --> 00:42:42,319
a.m central time when they'll experience

710
00:42:49,109 --> 00:42:46,480
the maximum g load or pressure

711
00:42:51,190 --> 00:42:49,119
for about four to five times the force

712
00:42:54,630 --> 00:42:51,200
of gravity for a few minutes or just

713
00:42:58,950 --> 00:42:56,470

just two minutes after that we'll start

714

00:43:00,950 --> 00:42:58,960

seeing uh

715

00:43:02,790 --> 00:43:00,960

the parachutes begin to deploy as you've

716

00:43:05,270 --> 00:43:02,800

seen here there are a number of them it

717

00:43:07,589 --> 00:43:05,280

starts with two pilot parachutes that

718

00:43:09,270 --> 00:43:07,599

pull out a larger drogue chute

719

00:43:10,950 --> 00:43:09,280

which slows the soyuz down a little bit

720

00:43:12,950 --> 00:43:10,960

and in turn pulls out the main

721

00:43:14,390 --> 00:43:12,960

parachutes that orange and white one you

722

00:43:17,349 --> 00:43:14,400

see in this graphic

723

00:43:19,829 --> 00:43:17,359

but just before it does touch down

724

00:43:21,910 --> 00:43:19,839

one other system helps the

725

00:43:23,510 --> 00:43:21,920

soyuz slow down just a little bit more

726

00:43:26,470 --> 00:43:23,520

the soft

727

00:43:27,910 --> 00:43:26,480

landing jets as they're called although

728

00:43:29,510 --> 00:43:27,920

most astronauts will tell you it's not a

729

00:43:31,109 --> 00:43:29,520

particularly soft landing even with

730

00:43:33,510 --> 00:43:31,119

their help

731

00:43:36,550 --> 00:43:33,520

those fire just about two seconds before

732

00:44:58,960 --> 00:43:36,560

touchdown to help lessen the impact of

733

00:44:58,970 --> 00:45:03,589

[Music]

734

00:45:03,599 --> 00:46:14,230

start of separation cyclogram

735

00:46:19,430 --> 00:46:16,630

we should be coming up on that uh

736

00:46:23,030 --> 00:46:19,440

module separation here in just a moment

737

00:46:26,309 --> 00:46:23,040

i see separation minus one minute 14

738

00:46:58,630 --> 00:46:28,710

this happens when the soyuz is about 87

739

00:47:09,510 --> 00:47:02,309

please continue reporting to us

740

00:47:12,710 --> 00:47:10,870

teams here in the ground are reporting

741

00:47:16,550 --> 00:47:12,720

that the crew members are going through

742

00:47:19,670 --> 00:47:16,560

an area where some bad communication was

743

00:47:21,589 --> 00:47:19,680

expected uh poor communication ability

744

00:47:24,549 --> 00:47:21,599

between us and this crew on board the

745

00:47:26,710 --> 00:47:24,559

soyuz so we will hopefully hear some

746

00:47:29,430 --> 00:47:26,720

confirmation as things happen we should

747

00:47:31,589 --> 00:47:29,440

be right about now

748

00:47:36,829 --> 00:47:31,599

seeing those uh separation the

749

00:47:40,069 --> 00:47:38,549

separation

750

00:47:41,750 --> 00:47:40,079

and there you go sounds like they are

751
00:47:44,549 --> 00:47:41,760
now separated that again takes place

752
00:47:45,990 --> 00:47:44,559
when the soil uses 87 miles above the

753
00:47:47,589 --> 00:47:46,000
earth

754
00:47:49,589 --> 00:47:47,599
sending the orbital module and

755
00:47:50,950 --> 00:47:49,599
instrumentation and propulsion module on

756
00:47:53,589 --> 00:47:50,960
their way to burn up in the earth's

757
00:47:54,630 --> 00:47:53,599
atmosphere while the uh crew module the

758
00:47:57,109 --> 00:47:54,640
ups the

759
00:47:58,630 --> 00:47:57,119
the scent module is left with the crew

760
00:48:00,470 --> 00:47:58,640
inside

761
00:48:02,230 --> 00:48:00,480
along with its uh

762
00:48:05,270 --> 00:48:02,240
heat shield and its parachutes that will

763
00:48:06,950 --> 00:48:05,280

help them safely get down to earth

764

00:48:08,630 --> 00:48:06,960

next milestone we'll be looking for is

765

00:48:10,150 --> 00:48:08,640

atmospheric entry

766

00:48:11,670 --> 00:48:10,160

coming up in about two minutes that's

767

00:48:13,190 --> 00:48:11,680

when the crew begins to feel the effects

768

00:48:16,309 --> 00:48:13,200

of gravity for the first time since they

769

00:48:20,470 --> 00:48:16,319

left earth that's 328 days ago for

770

00:48:24,630 --> 00:48:20,480

christina cook 201 for luca parmitano

771

00:48:27,990 --> 00:48:26,230

also about this time the descent

772

00:48:29,829 --> 00:48:28,000

module's computer will orient the

773

00:48:31,349 --> 00:48:29,839

capsule so the heat shield is pointing

774

00:48:33,349 --> 00:48:31,359

forward protecting it from the heat

775

00:49:30,470 --> 00:48:33,359

generated as it begins to experience the

776

00:49:34,150 --> 00:49:31,829

once again we are in the middle of a

777

00:49:36,309 --> 00:49:34,160

period when the communication

778

00:49:38,790 --> 00:49:36,319

between us and soyuz was expected to be

779

00:49:40,549 --> 00:49:38,800

a little spotty so we may not hear too

780

00:49:43,109 --> 00:49:40,559

much from the crew as they begin making

781

00:49:45,030 --> 00:49:43,119

their way home but we did hear that that

782

00:49:49,109 --> 00:49:45,040

did get a successful separation of the

783

00:49:50,950 --> 00:49:49,119

three modules and now we're watching

784

00:50:01,829 --> 00:49:50,960

for them to begin experiencing the

785

00:50:06,150 --> 00:50:03,910

just in the past couple of minutes they

786

00:50:10,069 --> 00:50:06,160

will have gone from 87 miles above the

787

00:50:14,150 --> 00:50:11,670

again things start happening pretty

788

00:50:16,549 --> 00:50:14,160

quick now

789

00:50:19,190 --> 00:50:16,559

once they uh do begin experiencing the

790

00:50:21,270 --> 00:50:19,200

earth's atmosphere the

791

00:50:23,109 --> 00:50:21,280

computers on board the soyuz of course

792

00:50:25,670 --> 00:50:23,119

will begin getting the soyuz into

793

00:50:36,060 --> 00:50:25,680

position for its landing

794

00:50:36,070 --> 00:50:49,490

[Music]

795

00:50:49,500 --> 00:51:03,430

[Applause]

796

00:51:06,549 --> 00:51:04,870

about this time the crew is beginning to

797

00:51:08,230 --> 00:51:06,559

feel the effects of gravity again and

798

00:51:10,549 --> 00:51:08,240

then it's going to continue building for

799

00:51:12,150 --> 00:51:10,559

the next six minutes or so when they'll

800

00:51:13,910 --> 00:51:12,160

experience the maximum pressure or

801
00:51:15,510 --> 00:51:13,920

g-load

802
00:51:17,670 --> 00:51:15,520

they can expect to feel about four to

803
00:51:19,190 --> 00:51:17,680

five times the force of gravity that we

804
00:51:45,430 --> 00:51:19,200

experience on earth just for a little

805
00:51:50,470 --> 00:51:47,670

expedition 61 members well on their way

806
00:51:52,309 --> 00:51:50,480

now to that 3 12 am landing time that

807
00:51:54,069 --> 00:51:52,319

we've been heading towards since they

808
00:53:05,910 --> 00:51:54,079

left the international space station at

809
00:53:09,430 --> 00:53:07,910

everything happening in sequence and on

810
00:53:12,309 --> 00:53:09,440

time so far

811
00:53:15,910 --> 00:53:12,319

starting with today's a 2 18 a.m central

812
00:53:18,230 --> 00:53:15,920

time deorbit burn set the expedition 61

813
00:53:19,990 --> 00:53:18,240

crew members on their way for 3 12 a.m

814

00:53:22,470 --> 00:53:20,000

landing they're currently

815

00:53:25,109 --> 00:53:22,480

right in the middle of the uh

816

00:53:27,109 --> 00:53:25,119

of that descent

817

00:53:28,390 --> 00:53:27,119

coming up on the maximum pressure that

818

00:53:29,670 --> 00:53:28,400

the crew will experience

819

00:53:32,230 --> 00:53:29,680

and

820

00:53:33,670 --> 00:53:32,240

in the middle of a plasma interface

821

00:53:35,030 --> 00:53:33,680

coming out of that in just a couple of

822

00:53:37,030 --> 00:53:35,040

minutes

823

00:53:38,470 --> 00:53:37,040

and then

824

00:54:21,190 --> 00:53:38,480

shortly afterwards we'll begin seeing

825

00:54:58,549 --> 00:54:54,950

uh

826
00:55:02,549 --> 00:54:58,559
the crew members will be experiencing

827
00:55:04,829 --> 00:55:02,559
the maximum g loads what is the g load

828
00:55:08,290 --> 00:55:04,839
we have

829
00:55:11,910 --> 00:55:08,300
4.28 right now we copy

830
00:55:21,510 --> 00:55:14,950
integral is 0 1 5

831
00:55:24,300 --> 00:55:23,270
and now

832
00:55:28,870 --> 00:55:24,310
30 seconds

833
00:55:30,470 --> 00:55:28,880
[Music]

834
00:55:32,470 --> 00:55:30,480
reports from the crew members there

835
00:55:33,990 --> 00:55:32,480
lining up exactly as expected with the

836
00:55:36,150 --> 00:55:34,000
point that we may be experiencing those

837
00:55:37,510 --> 00:55:36,160
maximum g-loads

838
00:55:39,109 --> 00:55:37,520

now about a minute away from when we

839

00:55:41,910 --> 00:55:39,119

would expect the parachutes to begin

840

00:55:43,270 --> 00:55:41,920

deploying about 35 000 feet above the

841

00:55:44,950 --> 00:55:43,280

earth

842

00:55:50,070 --> 00:55:44,960

right now they'll be traveling right

843

00:55:56,070 --> 00:55:52,950

[Music]

844

00:55:58,150 --> 00:55:56,080

we had o2 supplies so the pressure

845

00:56:02,230 --> 00:55:58,160

[Music]

846

00:56:05,190 --> 00:56:03,750

deployments will start with the two

847

00:56:07,430 --> 00:56:05,200

pilot chutes

848

00:56:08,390 --> 00:56:07,440

that pull out the 258 square foot drogue

849

00:56:10,710 --> 00:56:08,400

chute

850

00:56:13,270 --> 00:56:10,720

that slows the soyuz down to 178 miles

851
00:56:16,549 --> 00:56:13,280
per hour in only about 16 seconds and

852
00:56:18,150 --> 00:56:16,559
begins stabilizing the capsule

853
00:56:19,069 --> 00:56:18,160
once it's jettisoned it makes way for

854
00:56:22,069 --> 00:56:19,079
the

855
00:56:27,510 --> 00:56:22,079
3281-foot main parachute which sways

856
00:56:27,520 --> 00:56:31,520
standing by

857
00:56:35,030 --> 00:56:33,750
[Music]

858
00:56:47,270 --> 00:56:35,040
seeing some animation here of that

859
00:56:49,650 --> 00:56:48,920
oh

860
00:57:34,789 --> 00:56:49,660
[Applause]

861
00:57:39,910 --> 00:57:36,630
parachutes should begin deploying right

862
00:57:42,069 --> 00:57:39,920
about now again with that those two

863
00:57:45,430 --> 00:57:42,079

pilot shoots first pulling out a drogue

864

00:57:46,950 --> 00:57:45,440

chute that slows the soyuz down to 178

865

00:57:48,789 --> 00:57:46,960

miles per hour

866

00:57:50,150 --> 00:57:48,799

and then makes way for the main

867

00:57:52,870 --> 00:57:50,160

parachute

868

00:57:55,270 --> 00:57:52,880

big yellow uh orange and white ones that

869

00:57:57,670 --> 00:57:55,280

you're used to seeing

870

00:58:42,150 --> 00:57:57,680

that continue slowing the soyuz down to

871

00:58:45,430 --> 00:58:43,750

main parachute

872

00:58:47,670 --> 00:58:45,440

will keep the

873

00:58:48,950 --> 00:58:47,680

soyuz slowing down steadily as they make

874

00:58:53,990 --> 00:58:48,960

their way to the

875

00:58:57,750 --> 00:58:56,309

more than 10 minutes

876
00:59:00,710 --> 00:58:57,760
that again

877
00:59:01,750 --> 00:59:00,720
not only slows them down but it also

878
00:59:03,349 --> 00:59:01,760
helps them

879
00:59:04,789 --> 00:59:03,359
get stabilized as they make their way

880
00:59:19,349 --> 00:59:04,799
towards that landing which we are

881
00:59:23,510 --> 00:59:21,190
two harnesses on the main parachute hold

882
00:59:25,589 --> 00:59:23,520
the soyuz at a 30 degree angle to the

883
00:59:27,589 --> 00:59:25,599
horizon until the bottom harness is

884
00:59:29,430 --> 00:59:27,599
severed and the soyuz is able to swing

885
00:59:51,109 --> 00:59:29,440
into a vertical position position for

886
00:59:55,750 --> 00:59:53,829
and it looks like the team in the uh and

887
00:59:58,309 --> 00:59:55,760
uh the flight control team in russia is

888
01:00:07,190 --> 00:59:58,319

uh seeing some video of the

889

01:00:12,510 --> 01:00:09,990

already beneath that main parachute that

890

01:00:18,020 --> 01:00:12,520

will continue slowing the soyuz down to

891

01:00:29,270 --> 01:00:28,309

[Music]

892

01:00:32,069 --> 01:00:29,280

nine

893

01:00:35,430 --> 01:00:32,079

for number one

894

01:00:42,750 --> 01:00:35,440

in inaudible uh safety for the second

895

01:00:48,470 --> 01:00:46,870

[Music]

896

01:00:52,069 --> 01:00:48,480

we're working on getting a better shot

897

01:00:54,710 --> 01:00:52,079

of that video for you but uh

898

01:00:56,789 --> 01:00:54,720

everything there it is and that is a

899

01:00:58,710 --> 01:00:56,799

great view of the soyuz under the main

900

01:01:00,950 --> 01:00:58,720

parachute

901
01:01:02,660 --> 01:01:00,960
not as as cloudy as predicted it looks

902
01:01:08,870 --> 01:01:02,670
like a very clear view

903
01:01:12,870 --> 01:01:11,430
no issues

904
01:01:14,870 --> 01:01:12,880
this is actually the first time that

905
01:01:16,549 --> 01:01:14,880
we're getting hd video of the landing so

906
01:01:19,270 --> 01:01:16,559
it's especially fortuitous that we're

907
01:01:22,230 --> 01:01:19,280
getting such a clear video

908
01:01:24,470 --> 01:01:22,240
despite the cloudy weather predictions

909
01:01:26,870 --> 01:01:24,480
inside the capsule there christina cook

910
01:01:28,870 --> 01:01:26,880
luca parmitano and alexander schwartzoff

911
01:01:31,270 --> 01:01:28,880
are just minutes away from

912
01:01:33,670 --> 01:01:31,280
their triumphant return to earth that

913
01:01:36,069 --> 01:01:33,680

should be taking place around 3 12 a.m

914

01:01:38,549 --> 01:01:36,079

central time so still another 10 minutes

915

01:01:40,390 --> 01:01:38,559

for them to uh to slow down as they make

916

01:01:42,710 --> 01:01:40,400

their way toward the earth

917

01:01:44,789 --> 01:01:42,720

as they get closer just about uh two

918

01:01:45,990 --> 01:01:44,799

seconds before they before they touch

919

01:01:47,270 --> 01:01:46,000

down

920

01:01:49,510 --> 01:01:47,280

pressure

921

01:01:51,510 --> 01:01:49,520

so uh sports saw will get a notice from

922

01:01:53,430 --> 01:01:51,520

the computer to fire

923

01:01:56,549 --> 01:01:53,440

six solid propellant engines called the

924

01:01:57,910 --> 01:01:56,559

soft landing engines slow the soyuz down

925

01:01:59,510 --> 01:01:57,920

to five peop

926
01:02:06,910 --> 01:01:59,520
five feet per second or about three and

927
01:02:06,920 --> 01:02:21,990
0.5 0.3

928
01:02:26,309 --> 01:02:24,150
once again these this video coming up

929
01:02:28,470 --> 01:02:26,319
from helicopters who've made their way

930
01:02:29,990 --> 01:02:28,480
out to the landing site ready to meet

931
01:02:32,309 --> 01:02:30,000
them

932
01:02:33,990 --> 01:02:32,319
about eight helicopters are going to

933
01:02:36,549 --> 01:02:34,000
converge on the landing site with a

934
01:02:41,910 --> 01:02:36,559
number of uh support personnel

935
01:02:49,670 --> 01:02:43,510
standing by for

936
01:02:52,309 --> 01:02:50,470
so

937
01:03:06,789 --> 01:02:52,319
we are not going to do anything else

938
01:03:10,150 --> 01:03:08,390

my correction to what i said there this

939

01:03:12,870 --> 01:03:10,160

video actually coming from the team who

940

01:03:14,870 --> 01:03:12,880

arrived on the ground uh ready to rush

941

01:03:17,029 --> 01:03:14,880

in to meet the crew once they do touch

942

01:03:19,430 --> 01:03:17,039

down helicopters also of course

943

01:03:27,740 --> 01:03:19,440

converging on the landing side to to

944

01:04:38,829 --> 01:03:55,470

[Music]

945

01:04:38,839 --> 01:05:04,150

is 33 inevitable

946

01:05:10,150 --> 01:05:06,870

so use ms-13 continuing its smooth

947

01:05:12,230 --> 01:05:10,160

descent on a way to a 3 12 am landing in

948

01:05:16,309 --> 01:05:12,240

kazakhstan

949

01:05:20,230 --> 01:05:18,230

all looking good so far as it makes its

950

01:05:21,430 --> 01:05:20,240

way down again a great view here the

951
01:05:24,069 --> 01:05:21,440
first time that we've been able to get

952
01:05:25,829 --> 01:05:24,079
hd video from the landing site to these

953
01:05:28,309 --> 01:05:25,839
uh views coming from the team who've

954
01:05:49,270 --> 01:05:28,319
already made it to where we expect the

955
01:05:52,549 --> 01:05:50,870
just a few more minutes now left and

956
01:05:55,750 --> 01:05:52,559
christina cook's

957
01:05:58,390 --> 01:05:55,760
record-breaking space flight 328

958
01:06:45,270 --> 01:05:58,400
days in space just about to come to an

959
01:06:45,280 --> 01:06:59,190
will you scream

960
01:07:27,829 --> 01:07:00,710
i saw audible

961
01:07:27,839 --> 01:07:54,789
uh

962
01:08:16,229 --> 01:07:56,470
christina yes

963
01:08:16,239 --> 01:08:31,510

okay

964

01:08:44,390 --> 01:08:43,269

so using this 13 continuing to make its

965

01:08:46,470 --> 01:08:44,400

way down

966

01:08:48,550 --> 01:08:46,480

just a few more minutes i scheduled a

967

01:08:49,510 --> 01:08:48,560

touchdown in two minutes actually 3 12

968

01:08:50,870 --> 01:08:49,520

a.m

969

01:08:53,590 --> 01:08:50,880

hopefully we'll get a little bit of

970

01:08:55,669 --> 01:08:53,600

video back there it is

971

01:09:10,149 --> 01:08:55,679

inside christina cook luca parmitano and

972

01:09:13,269 --> 01:09:11,749

again one of the last things to happen

973

01:09:15,430 --> 01:09:13,279

here will be the uh

974

01:09:17,189 --> 01:09:15,440

firing of the soft landing engines

975

01:09:19,110 --> 01:09:17,199

that'll happen just a couple of seconds

976
01:09:20,950 --> 01:09:19,120
before the actual touchdown when it's

977
01:09:23,590 --> 01:09:20,960
about 39 feet

978
01:09:26,950 --> 01:09:23,600
above the earth

979
01:09:29,590 --> 01:09:26,960
that's six solid propellant engines

980
01:09:32,829 --> 01:09:29,600
that are intended to soften the blow of

981
01:09:39,430 --> 01:09:36,470
altitude soyuz also has seat shock

982
01:09:42,229 --> 01:09:39,440
absorbers that will be turned on by now

983
01:09:43,990 --> 01:09:42,239
prepared for that landing

984
01:09:46,870 --> 01:09:44,000
and the seats themselves are contoured

985
01:09:48,470 --> 01:09:46,880
to fit the astronauts individually

986
01:09:49,590 --> 01:09:48,480
to provide them the softest possible

987
01:09:51,349 --> 01:09:49,600
landing

988
01:10:25,189 --> 01:09:51,359

although all reports are that it still

989

01:10:25,199 --> 01:10:28,070

land inside

990

01:10:32,149 --> 01:10:29,510

you can see one of the helicopters

991

01:11:00,630 --> 01:10:32,159

that's been sent in to meet the soyuz

992

01:11:06,470 --> 01:11:03,030

and it looks like soyuz

993

01:11:09,189 --> 01:11:06,480

ms-13 carrying christina cook luca

994

01:11:12,070 --> 01:11:09,199

parmitano and alexander schwartzoff has

995

01:11:13,350 --> 01:11:12,080

touched down 3 12 a.m central time right

996

01:11:17,189 --> 01:11:13,360

on time

997

01:11:19,350 --> 01:11:17,199

and now after 328 days in space and 139

998

01:11:22,149 --> 01:11:19,360

million miles for christina cook

999

01:11:24,070 --> 01:11:22,159

and 201 days in space 85 million miles

1000

01:11:26,630 --> 01:11:24,080

for luca parmitano and alexander

1001
01:11:28,709 --> 01:11:26,640
sportswell the expedition 61 crew is

1002
01:11:31,830 --> 01:11:28,719
officially home

1003
01:11:35,910 --> 01:11:31,840
again that uh landing came right at 3 12

1004
01:11:37,110 --> 01:11:35,920
a.m central time 3 12 p.m kazakhstan

1005
01:11:38,790 --> 01:11:37,120
time

1006
01:11:41,750 --> 01:11:38,800
following uh the deorbit burn that said

1007
01:11:42,920 --> 01:11:41,760
it's on set it on its way at 2 18 a.m

1008
01:11:45,910 --> 01:11:42,930
central time

1009
01:11:47,430 --> 01:11:45,920
[Music]

1010
01:11:49,430 --> 01:11:47,440
now that the soyuz has touched down

1011
01:11:51,270 --> 01:11:49,440
we'll begin seeing uh hopefully with

1012
01:11:53,270 --> 01:11:51,280
this great view that we're getting some

1013
01:11:55,990 --> 01:11:53,280

of the helicopters begin landing around

1014

01:11:57,830 --> 01:11:56,000

it teams descending now that it has

1015

01:11:59,430 --> 01:11:57,840

safely made it to the ground and they

1016

01:12:01,030 --> 01:11:59,440

can move in

1017

01:12:03,430 --> 01:12:01,040

number of a

1018

01:12:04,470 --> 01:12:03,440

number of landing support personnel will

1019

01:12:05,990 --> 01:12:04,480

be

1020

01:12:11,189 --> 01:12:06,000

moving into place to help the crew

1021

01:12:15,510 --> 01:12:12,630

we should

1022

01:12:17,189 --> 01:12:15,520

should see them as we usually do uh

1023

01:12:18,950 --> 01:12:17,199

in the chairs in front of their vehicle

1024

01:12:21,510 --> 01:12:18,960

before they get whisked away to the

1025

01:12:23,110 --> 01:12:21,520

medical tent

1026
01:12:25,350 --> 01:12:23,120
for their

1027
01:12:26,950 --> 01:12:25,360
post landing checkups

1028
01:12:29,030 --> 01:12:26,960
is again

1029
01:12:30,790 --> 01:12:29,040
about 25 degrees fahrenheit in

1030
01:12:32,870 --> 01:12:30,800
kazakhstan here at the landing site

1031
01:12:35,350 --> 01:12:32,880
today so that they won't probably want

1032
01:12:37,430 --> 01:12:35,360
to linger very long but

1033
01:13:05,669 --> 01:12:37,440
as soon as we are able to get you a few

1034
01:13:10,950 --> 01:13:07,430
once again for christina cook this

1035
01:13:13,510 --> 01:13:10,960
wrapped up a record-breaking mission 328

1036
01:13:16,950 --> 01:13:13,520
days the longest single space flight for

1037
01:13:20,310 --> 01:13:16,960
a woman from any nation and the seventh

1038
01:13:25,510 --> 01:13:20,320

longest space flight for man or woman

1039

01:13:31,030 --> 01:13:29,189

she launched on march 14 2019 and it's

1040

01:13:33,830 --> 01:13:31,040

been at the space station since seeing a

1041

01:13:36,390 --> 01:13:33,840

number of crew members come and go

1042

01:13:38,310 --> 01:13:36,400

her current crewmates on board the soyuz

1043

01:13:41,110 --> 01:13:38,320

luca parmitano and alexander switzoff

1044

01:13:42,630 --> 01:13:41,120

arrived at the station on july 20th

1045

01:13:44,470 --> 01:13:42,640

along with andrew morgan who stayed

1046

01:13:46,790 --> 01:13:44,480

behind at the international space

1047

01:13:48,229 --> 01:13:46,800

station he jessica mirren and oleg

1048

01:13:55,110 --> 01:13:48,239

skripochka

1049

01:14:02,149 --> 01:13:58,790

during those 328 days on space in space

1050

01:14:05,830 --> 01:14:02,159

cook traveled 139 million miles

1051
01:14:07,750 --> 01:14:05,840
the equivalent of 29 at 291 round trips

1052
01:14:09,590 --> 01:14:07,760
to the moon

1053
01:14:11,350 --> 01:14:09,600
and back

1054
01:14:13,270 --> 01:14:11,360
for luca parmitano and alexander

1055
01:14:14,910 --> 01:14:13,280
sportsov

1056
01:14:17,750 --> 01:14:14,920
they spent

1057
01:14:19,590 --> 01:14:17,760
201 days in space

1058
01:14:20,950 --> 01:14:19,600
made 500

1059
01:14:24,229 --> 01:14:20,960
excuse me

1060
01:14:30,870 --> 01:14:24,239
3 216 orbits and traveled 85 billion

1061
01:14:34,950 --> 01:14:32,310
although they are back on earth their

1062
01:14:37,910 --> 01:14:34,960
journey is not quite done they will uh

1063
01:14:40,310 --> 01:14:37,920

need to make their way for sports off

1064

01:14:42,950 --> 01:14:40,320

back to star city

1065

01:14:44,709 --> 01:14:42,960

luca will be uh traveling back to europe

1066

01:14:46,550 --> 01:14:44,719

and christina of course will be coming

1067

01:14:47,510 --> 01:14:46,560

back to the united states they've got a

1068

01:14:49,910 --> 01:14:47,520

little bit

1069

01:14:51,910 --> 01:14:49,920

more journey ahead of them

1070

01:14:53,910 --> 01:14:51,920

uh but first we'll wait for those

1071

01:14:56,070 --> 01:14:53,920

landing support crew members to make

1072

01:14:57,030 --> 01:14:56,080

their way to the capsule and begin and

1073

01:15:58,870 --> 01:14:57,040

begin

1074

01:16:02,070 --> 01:15:59,830

we are seeing a lot of your

1075

01:16:04,630 --> 01:16:02,080

congratulations messages come through

1076

01:16:07,270 --> 01:16:04,640

for christina cook using the hashtag

1077

01:16:08,630 --> 01:16:07,280

congrats christina those are great and

1078

01:16:11,270 --> 01:16:08,640

we really appreciate them and of course

1079

01:16:13,030 --> 01:16:11,280

we were also uh ahead of her landing uh

1080

01:16:14,630 --> 01:16:13,040

collecting some congratulation messages

1081

01:16:16,310 --> 01:16:14,640

from the teams that support her here on

1082

01:16:17,750 --> 01:16:16,320

the ground we've got another one coming

1083

01:16:19,110 --> 01:16:17,760

up here from

1084

01:16:21,669 --> 01:16:19,120

the jet propulsion laboratory in

1085

01:16:23,830 --> 01:16:21,679

california

1086

01:16:25,669 --> 01:16:23,840

hey christina matt bennett here

1087

01:16:27,590 --> 01:16:25,679

this is oco 3 project manager ralph

1088

01:16:29,350 --> 01:16:27,600

basilio and project scientist dr

1089

01:16:30,550 --> 01:16:29,360

anne-marie eldering and we just want to

1090

01:16:32,390 --> 01:16:30,560

say thank you for all your interest in

1091

01:16:34,229 --> 01:16:32,400

the ocs 3 project and all the beautiful

1092

01:16:35,750 --> 01:16:34,239

pictures that you took of oco three in

1093

01:16:37,350 --> 01:16:35,760

action on the space station we're really

1094

01:16:42,550 --> 01:16:37,360

glad you're home safely from all of us

1095

01:16:46,310 --> 01:16:44,470

it is certainly not too late to get your

1096

01:16:48,390 --> 01:16:46,320

own congratulation messages in so keep

1097

01:16:49,669 --> 01:16:48,400

those coming using the hashtag congrats

1098

01:16:51,430 --> 01:16:49,679

christina

1099

01:16:53,830 --> 01:16:51,440

we're standing by as we wait to

1100

01:18:26,709 --> 01:16:53,840

hopefully be getting some video from the

1101

01:18:30,870 --> 01:18:28,229

while we wait for the video from the

1102

01:18:33,430 --> 01:18:30,880

landing site to come uh come online we

1103

01:18:34,709 --> 01:18:33,440

have one more video uh congratulating

1104

01:18:37,100 --> 01:18:34,719

christina from the teams that have been

1105

01:18:41,750 --> 01:18:37,110

supporting her here on the ground

1106

01:18:41,750 --> 01:18:41,760

[Music]

1107

01:18:45,990 --> 01:18:44,229

welcome home christina it's been great

1108

01:18:48,480 --> 01:18:46,000

supporting you from the iss smurf thank

1109

01:18:55,510 --> 01:18:52,390

[Music]

1110

01:18:57,189 --> 01:18:55,520

welcome home christina congratulations

1111

01:19:00,709 --> 01:18:57,199

on your record-setting mission from your

1112

01:19:04,790 --> 01:19:02,550

two more of the the teams that have been

1113

01:19:06,229 --> 01:19:04,800

supporting christina cook and the other

1114

01:19:07,350 --> 01:19:06,239

space station crew members from the

1115

01:19:09,350 --> 01:19:07,360

ground

1116

01:19:10,630 --> 01:19:09,360

sitting in the congrats and just one

1117

01:19:11,830 --> 01:19:10,640

more reminder

1118

01:21:05,270 --> 01:19:11,840

you can send in your own using the

1119

01:21:08,709 --> 01:21:06,790

we're still waiting to receive video

1120

01:21:10,229 --> 01:21:08,719

from the landing site but we do have a

1121

01:21:12,070 --> 01:21:10,239

personnel there on the ground who are

1122

01:21:14,950 --> 01:21:12,080

ready to send us in some reports one of

1123

01:21:17,430 --> 01:21:14,960

them is nasa spokesman rob navies rob

1124

01:21:19,750 --> 01:21:17,440

can you hear us

1125

01:21:22,310 --> 01:21:19,760

yeah i can't breve uh a remarkable

1126

01:21:23,629 --> 01:21:22,320

scene out here a journey roughly the

1127

01:21:27,189 --> 01:21:23,639

equivalent of

1128

01:21:31,030 --> 01:21:27,199

291 round trips to the moon or christina

1129

01:21:33,110 --> 01:21:31,040

cook had an end the soyuz nf13 stuck the

1130

01:21:35,990 --> 01:21:33,120

landing in his upright and they're in

1131

01:21:37,350 --> 01:21:36,000

the process of beginning

1132

01:21:39,750 --> 01:21:37,360

to uh

1133

01:21:50,709 --> 01:21:39,760

put the erector through a ladder on top

1134

01:21:50,719 --> 01:21:56,950

lightly

1135

01:22:00,790 --> 01:21:59,510

rob i think we may

1136

01:22:02,229 --> 01:22:00,800

be missing some of what you're saying

1137

01:22:04,390 --> 01:22:02,239

there it sounds like that you said that

1138

01:22:06,149 --> 01:22:04,400

soyuz is did land upright they're

1139

01:22:07,510 --> 01:22:06,159

getting the ladder into the place and

1140

01:22:08,830 --> 01:22:07,520

hopefully soon we'll be getting the crew

1141

01:22:13,430 --> 01:22:08,840

members

1142

01:22:15,910 --> 01:22:13,440

out yes randy uh it is uh the ms-13

1143

01:22:17,750 --> 01:22:15,920

landed upright they'll be uh erecting a

1144

01:22:21,270 --> 01:22:17,760

putter and begin the

1145

01:22:24,070 --> 01:22:21,280

this is very quickly here uh the

1146

01:22:25,830 --> 01:22:24,080

scene here is uh almost so realistic in

1147

01:22:29,430 --> 01:22:25,840

the middle of this desolate area of

1148

01:22:33,510 --> 01:22:31,030

on the ground

1149

01:22:35,189 --> 01:22:33,520

all of the russian mia coppers were on

1150

01:22:37,830 --> 01:22:35,199

the ground within four minutes of

1151
01:22:40,470 --> 01:22:37,840
touchdown just a remarkable pinpoint

1152
01:22:43,750 --> 01:22:40,480
landing between the cook luca parmitano

1153
01:22:45,590 --> 01:22:43,760
and alexander scorpio

1154
01:22:47,669 --> 01:22:45,600
we saw some great video of it as it was

1155
01:22:49,830 --> 01:22:47,679
coming down no clouds in the way

1156
01:22:52,950 --> 01:22:49,840
thankfully uh but uh we don't have any

1157
01:22:54,550 --> 01:22:52,960
video of of the scene there

1158
01:22:57,189 --> 01:22:54,560
at the landing site just yet so we're

1159
01:22:58,950 --> 01:22:57,199
still waiting on that

1160
01:23:00,870 --> 01:22:58,960
all right well hang in here with me the

1161
01:23:04,229 --> 01:23:00,880
ladder is now being

1162
01:23:06,550 --> 01:23:04,239
put around the top of the spacecraft

1163
01:23:08,870 --> 01:23:06,560

that will set the stage for the opening

1164

01:23:10,950 --> 01:23:08,880

of the hatch by the rsc and nergia

1165

01:23:13,510 --> 01:23:10,960

personnel there the first ones on the

1166

01:23:15,430 --> 01:23:13,520

scene uh medical personnel consisting of

1167

01:23:17,270 --> 01:23:15,440

nasa flight surgeon european space

1168

01:23:19,110 --> 01:23:17,280

agency flight surgeon

1169

01:23:22,070 --> 01:23:19,120

and uh russian flight surgeon and

1170

01:23:24,950 --> 01:23:22,080

respective nurses they are all

1171

01:23:27,750 --> 01:23:24,960

ready to attend to their respective crew

1172

01:23:29,189 --> 01:23:27,760

members this whole process will take

1173

01:23:30,950 --> 01:23:29,199

just a few minutes

1174

01:23:34,149 --> 01:23:30,960

before each of the crew members is

1175

01:23:35,750 --> 01:23:34,159

extracted from the soyuz descent module

1176

01:23:37,830 --> 01:23:35,760

they'll be put in chairs that's the

1177

01:23:39,590 --> 01:23:37,840

current plan although it's pretty cold

1178

01:23:41,510 --> 01:23:39,600

out here temperatures below freezing in

1179

01:23:43,510 --> 01:23:41,520

the mid-20s fahrenheit

1180

01:23:45,669 --> 01:23:43,520

how long they actually remain in shares

1181

01:23:47,590 --> 01:23:45,679

uh remains to be seen before they would

1182

01:23:51,669 --> 01:23:47,600

be brought into that inflatable medical

1183

01:23:55,830 --> 01:23:53,750

yeah i imagine they won't be they won't

1184

01:23:57,830 --> 01:23:55,840

be wanting to linger any more than they

1185

01:24:04,229 --> 01:23:57,840

have to uh ready to get inside that

1186

01:24:07,750 --> 01:24:06,149

if you're seeing your first imagery uh

1187

01:24:09,990 --> 01:24:07,760

from the landing site you're seeing uh

1188

01:24:11,990 --> 01:24:10,000

some of the rsc inaudible personnel and

1189

01:24:14,790 --> 01:24:12,000

the search and recovery forces

1190

01:24:16,950 --> 01:24:14,800

they will begin the process momentarily

1191

01:24:19,270 --> 01:24:16,960

of opening that top hatch

1192

01:24:20,950 --> 01:24:19,280

the soyuz commander alexander squares

1193

01:24:22,310 --> 01:24:20,960

off in the center seat of the descent

1194

01:24:23,510 --> 01:24:22,320

module he'll be the first to be

1195

01:24:26,149 --> 01:24:23,520

extracted

1196

01:24:28,070 --> 01:24:26,159

followed in all likelihood by parmitano

1197

01:24:30,229 --> 01:24:28,080

and cook

1198

01:24:31,669 --> 01:24:30,239

no video for us yet so we're depending

1199

01:24:33,750 --> 01:24:31,679

on your description for a little while

1200

01:24:36,470 --> 01:24:33,760

longer

1201

01:24:38,709 --> 01:24:36,480

all right as is typically the case uh

1202

01:24:42,470 --> 01:24:38,719

the flags of russia and kazakhstan have

1203

01:24:45,750 --> 01:24:42,480

been uh planted uh in a perimeter around

1204

01:24:48,950 --> 01:24:45,760

the landing site again just a

1205

01:24:50,229 --> 01:24:48,960

a just a very surrealistic scene in a

1206

01:24:51,750 --> 01:24:50,239

foot of snow

1207

01:24:53,830 --> 01:24:51,760

in early february

1208

01:24:55,270 --> 01:24:53,840

a crew that just hours ago was on the

1209

01:24:57,830 --> 01:24:55,280

comfort of the international space

1210

01:25:00,870 --> 01:24:57,840

station back on earth christina cook

1211

01:25:02,629 --> 01:25:00,880

having completed 328 days in space the

1212

01:25:05,189 --> 01:25:02,639

second longest

1213

01:25:06,709 --> 01:25:05,199

u.s space flight in history

1214

01:25:09,030 --> 01:25:06,719

you've seen a number of these landings

1215

01:25:10,550 --> 01:25:09,040

up close and personal are you able to to

1216

01:25:13,669 --> 01:25:10,560

compare this to the other ones or rank

1217

01:25:16,149 --> 01:25:13,679

them in any way

1218

01:25:18,390 --> 01:25:16,159

yeah i would tell you that the speed in

1219

01:25:20,149 --> 01:25:18,400

which our helicopters were on the ground

1220

01:25:21,910 --> 01:25:20,159

and our ability to see

1221

01:25:24,149 --> 01:25:21,920

the soyuz under the shoots in the final

1222

01:25:26,709 --> 01:25:24,159

minutes before the soft landing engines

1223

01:25:27,990 --> 01:25:26,719

fired and touchdown occurred

1224

01:25:30,709 --> 01:25:28,000

you never get

1225

01:25:34,550 --> 01:25:30,719

tired of it it's just a remarkable scene

1226

01:25:37,430 --> 01:25:34,560

the soyuz itself as is always the case

1227

01:25:38,629 --> 01:25:37,440

it's outer hull scorched by the heat of

1228

01:25:39,590 --> 01:25:38,639

reentry

1229

01:25:42,550 --> 01:25:39,600

but

1230

01:25:44,709 --> 01:25:42,560

the personnel here working very quickly

1231

01:25:47,030 --> 01:25:44,719

to get that top hatch open the ladder

1232

01:25:48,310 --> 01:25:47,040

has already been erected and we're

1233

01:25:51,189 --> 01:25:48,320

expecting

1234

01:25:54,229 --> 01:25:51,199

to see the first items removed from the

1235

01:25:58,229 --> 01:25:54,239

soyuz vehicle uh very soon followed by

1236

01:25:58,239 --> 01:26:02,390

and i suppose sports will be first

1237

01:26:06,550 --> 01:26:03,990

yes the soyuz commander is always the

1238

01:26:08,950 --> 01:26:06,560

first out because that makes the way

1239

01:26:11,189 --> 01:26:08,960

clear for the other crew members who

1240

01:26:12,870 --> 01:26:11,199

flanked him during re-entry uh look

1241

01:26:15,110 --> 01:26:12,880

apartment town of flight engineer number

1242

01:26:16,709 --> 01:26:15,120

one to his left christina cook flight

1243

01:26:20,149 --> 01:26:16,719

engineer number two to his right they'll

1244

01:26:21,750 --> 01:26:20,159

be extracted uh after dwarf is but they

1245

01:26:22,790 --> 01:26:21,760

have to get that soyuz commander out

1246

01:26:24,709 --> 01:26:22,800

first

1247

01:26:35,030 --> 01:26:24,719

to clear the way for the extraction of

1248

01:26:38,709 --> 01:26:36,709

we're still waiting to see more video

1249

01:26:40,390 --> 01:26:38,719

but in the meantime we are hearing from

1250

01:26:41,830 --> 01:26:40,400

a lot of people on who are watching on

1251

01:26:43,990 --> 01:26:41,840

social media sending in their

1252

01:26:46,870 --> 01:26:44,000

congratulations to christina using the

1253

01:26:48,709 --> 01:26:46,880

hashtag congrats christina

1254

01:26:50,790 --> 01:26:48,719

so we hope that you're able to to pass

1255

01:26:53,750 --> 01:26:50,800

on those congratulations when when you

1256

01:26:56,070 --> 01:26:53,760

see her and her crewmates

1257

01:26:58,470 --> 01:26:56,080

we will certainly do that brandy as i'm

1258

01:26:59,270 --> 01:26:58,480

sure you have uh reported earlier in the

1259

01:27:01,350 --> 01:26:59,280

day

1260

01:27:03,669 --> 01:27:01,360

once the crew has completed about an

1261

01:27:05,750 --> 01:27:03,679

hour and a half worth of medical testing

1262

01:27:08,950 --> 01:27:05,760

in that nearby tent that else has

1263

01:27:12,070 --> 01:27:08,960

already been erected uh they will

1264

01:27:15,590 --> 01:27:12,080

be flown in three individual helicopters

1265

01:27:17,830 --> 01:27:15,600

a two-hour 10-minute helicopter flight

1266

01:27:19,910 --> 01:27:17,840

back to the northeast of our landing

1267

01:27:21,350 --> 01:27:19,920

site here of the staging city of

1268

01:27:22,709 --> 01:27:21,360

carlinganda

1269

01:27:24,470 --> 01:27:22,719

where they will

1270

01:27:25,510 --> 01:27:24,480

undergo a brief

1271

01:27:28,070 --> 01:27:25,520

period

1272

01:27:30,470 --> 01:27:28,080

of additional medical testing

1273

01:27:32,629 --> 01:27:30,480

before cooking parmitano bought a nasa

1274

01:27:34,790 --> 01:27:32,639

jet to head for cologne germany

1275

01:27:37,030 --> 01:27:34,800

alexander squares off will board a

1276

01:27:39,430 --> 01:27:37,040

gagarin cosmonaut training center

1277

01:27:40,950 --> 01:27:39,440

aircraft to fly back to his home in star

1278

01:27:42,790 --> 01:27:40,960

city russia

1279

01:27:45,110 --> 01:27:42,800

it is in cologne where the european

1280

01:27:47,270 --> 01:27:45,120

astronaut center is located at

1281

01:27:49,669 --> 01:27:47,280

farmington and other visa personnel who

1282

01:27:51,990 --> 01:27:49,679

will be on the nasa plane will be

1283

01:27:54,149 --> 01:27:52,000

dropped off they'll be greeted by

1284

01:27:56,229 --> 01:27:54,159

esa vips

1285

01:27:58,629 --> 01:27:56,239

at the cologne airport it's actually a

1286

01:28:01,350 --> 01:27:58,639

military airfield at the adjacent to the

1287

01:28:03,510 --> 01:28:01,360

commercial uh part of the cologne bonn

1288

01:28:05,669 --> 01:28:03,520

airport in germany

1289

01:28:07,350 --> 01:28:05,679

and christina cook will undergo some

1290

01:28:09,910 --> 01:28:07,360

additional medical testing that was the

1291

01:28:12,790 --> 01:28:09,920

planned protocol uh in the cologne

1292

01:28:15,270 --> 01:28:12,800

before she reboards the nasa jet we will

1293

01:28:17,430 --> 01:28:15,280

head back to houston

1294

01:28:19,750 --> 01:28:17,440

and amazingly the trip from space to

1295

01:28:21,189 --> 01:28:19,760

earth takes less time than the trip for

1296

01:28:23,910 --> 01:28:21,199

for the crew members back to their own

1297

01:28:29,189 --> 01:28:27,830

exactly i will tell you that we heard

1298

01:28:31,750 --> 01:28:29,199

earlier

1299

01:28:34,229 --> 01:28:31,760

today about a few uh two or three hours

1300

01:28:37,030 --> 01:28:34,239

ago that after the crew had closed the

1301
01:28:40,550 --> 01:28:37,040
hatch to their soyuz spacecraft leaving

1302
01:28:42,790 --> 01:28:40,560
drew morgan jessica muir and the new

1303
01:28:46,310 --> 01:28:42,800
the new iss commander alex proposed

1304
01:28:48,629 --> 01:28:46,320
behind that jessica muir uh reported uh

1305
01:28:51,030 --> 01:28:48,639
it sure feels lonely up here but that

1306
01:28:53,510 --> 01:28:51,040
won't be the case for very long just a

1307
01:28:55,430 --> 01:28:53,520
couple of months from now another soyuz

1308
01:28:58,070 --> 01:28:55,440
launch with chris cassidy nikolai

1309
01:29:00,070 --> 01:28:58,080
figanoff and andre bapkin uh will be

1310
01:29:02,149 --> 01:29:00,080
staged from the viking or cosmodrome

1311
01:29:04,629 --> 01:29:02,159
which is for the southwest of where we

1312
01:29:07,510 --> 01:29:04,639
are at the moment that launch scheduled

1313
01:29:09,430 --> 01:29:07,520

uh for april 9th to re-up the station

1314

01:29:14,149 --> 01:29:09,440

crew at least for an eight-day period

1315

01:29:17,990 --> 01:29:16,229

the uh the hugs on on the orbit that we

1316

01:29:19,990 --> 01:29:18,000

saw during the hatch closing and also

1317

01:29:21,750 --> 01:29:20,000

the words from uh luca parmitano as he

1318

01:29:24,629 --> 01:29:21,760

was handing over the command of the

1319

01:29:26,629 --> 01:29:24,639

station to olegs krapochko were all very

1320

01:29:27,669 --> 01:29:26,639

touching you could tell the crew

1321

01:29:29,030 --> 01:29:27,679

you could you could see that they were

1322

01:29:30,790 --> 01:29:29,040

going to miss each other and and they've

1323

01:29:33,189 --> 01:29:30,800

also been

1324

01:29:34,070 --> 01:29:33,199

been tweeting as they as they led up to

1325

01:29:37,669 --> 01:29:34,080

their

1326

01:29:41,750 --> 01:29:37,679

much they'll they'll miss all being

1327

01:29:45,750 --> 01:29:43,590

still no video on our end unfortunately

1328

01:29:47,750 --> 01:29:45,760

rob

1329

01:29:50,830 --> 01:29:47,760

i'm sorry uh brandi are you are you

1330

01:29:53,830 --> 01:29:50,840

receiving video yet no no video yet

1331

01:29:55,189 --> 01:29:53,840

here okay you shouldn't be getting it

1332

01:29:58,070 --> 01:29:55,199

any time now

1333

01:29:59,910 --> 01:29:58,080

the um the crew was very close

1334

01:30:00,709 --> 01:29:59,920

particularly jessica muir and christina

1335

01:30:01,910 --> 01:30:00,719

cook

1336

01:30:03,669 --> 01:30:01,920

they had

1337

01:30:06,390 --> 01:30:03,679

trained together they were classmates in

1338

01:30:07,669 --> 01:30:06,400

their astronaut class several years ago

1339

01:30:08,790 --> 01:30:07,679

and of course

1340

01:30:13,189 --> 01:30:08,800

conducted

1341

01:30:16,790 --> 01:30:13,199

a series of uh all female spacewalks to

1342

01:30:18,229 --> 01:30:16,800

set yet another mark in history uh as if

1343

01:30:19,910 --> 01:30:18,239

there were in the records that were

1344

01:30:22,149 --> 01:30:19,920

being set during the course of

1345

01:30:24,229 --> 01:30:22,159

expedition 61

1346

01:30:28,470 --> 01:30:24,239

which saw a record nine spacewalks

1347

01:30:31,270 --> 01:30:28,480

totaling 61 hours dead even uh

1348

01:30:34,550 --> 01:30:31,280

very ironic

1349

01:30:37,030 --> 01:30:34,560

in those nine spacewalks during

1350

01:30:38,470 --> 01:30:37,040

exclusive expedition 62

1351

01:30:41,030 --> 01:30:38,480

away

1352

01:30:42,709 --> 01:30:41,040

netflix

1353

01:30:44,229 --> 01:30:42,719

they certainly earned arrest after all

1354

01:30:53,510 --> 01:30:44,239

that they did in space i'm sure they're

1355

01:30:57,669 --> 01:30:55,189

the russian search and recovery forces

1356

01:31:01,030 --> 01:30:57,679

and the support personnel execute one of

1357

01:31:03,110 --> 01:31:01,040

these landing and subsequent recoveries

1358

01:31:05,510 --> 01:31:03,120

we are actually looking off beyond a

1359

01:31:07,990 --> 01:31:05,520

series of russian mia helicopters

1360

01:31:08,950 --> 01:31:08,000

there's some local villagers that are

1361

01:31:10,709 --> 01:31:08,960

riding

1362

01:31:13,510 --> 01:31:10,719

native horses

1363

01:31:15,669 --> 01:31:13,520

on a in a foot of snow here in the south

1364

01:31:16,870 --> 01:31:15,679

central steppe kurdistan you just never

1365

01:31:18,550 --> 01:31:16,880

know randy

1366

01:31:21,270 --> 01:31:18,560

can't wait to get the video it sounds

1367

01:31:24,390 --> 01:31:21,280

like it's going to be really good

1368

01:31:28,390 --> 01:31:24,400

i mean it's just amazing bell out here

1369

01:31:30,550 --> 01:31:28,400

no wind temperature in the mid-20s and

1370

01:31:32,310 --> 01:31:30,560

natives riding their

1371

01:31:34,310 --> 01:31:32,320

their native horses

1372

01:31:35,910 --> 01:31:34,320

just a little bit

1373

01:31:40,709 --> 01:31:35,920

of the stroll

1374

01:31:43,430 --> 01:31:40,719

on local uh on local horses on thursday

1375

01:31:45,189 --> 01:31:43,440

are they making any

1376

01:31:48,550 --> 01:31:45,199

the rs and nugget personnel are a

1377

01:31:50,390 --> 01:31:48,560

process of uh beginning to gather up the

1378

01:31:58,229 --> 01:31:50,400

uh

1379

01:31:59,430 --> 01:31:58,239

folded up and returned for post-flight

1380

01:32:01,270 --> 01:31:59,440

analysis

1381

01:32:04,709 --> 01:32:01,280

the top hatch has now been opened by the

1382

01:32:06,550 --> 01:32:04,719

way to the ms-13 spacecraft uh the uh

1383

01:32:08,310 --> 01:32:06,560

large orange and white parachute that

1384

01:32:10,790 --> 01:32:08,320

you're accustomed to seeing

1385

01:32:12,870 --> 01:32:10,800

four landings and uh

1386

01:32:15,990 --> 01:32:12,880

here at the landing site itself during

1387

01:32:17,830 --> 01:32:16,000

the descent of the soyuz spacecraft uh

1388

01:32:19,830 --> 01:32:17,840

that parachute uh is going to be

1389

01:32:21,430 --> 01:32:19,840

gathered up and uh

1390

01:32:22,790 --> 01:32:21,440

and uh taken back

1391

01:32:27,189 --> 01:32:22,800

to

1392

01:32:29,510 --> 01:32:27,199

on it work like a charm

1393

01:32:32,390 --> 01:32:29,520

without the key presence of wind preview

1394

01:32:34,870 --> 01:32:32,400

today the soyuz landed upright which is

1395

01:32:37,110 --> 01:32:34,880

the preferred orientation although

1396

01:32:39,669 --> 01:32:37,120

they'll drag on the on its side

1397

01:32:40,790 --> 01:32:39,679

there of course another hatch available

1398

01:32:43,350 --> 01:32:40,800

for the

1399

01:32:45,110 --> 01:32:43,360

extracted we should be seeing alexander

1400

01:32:47,590 --> 01:32:45,120

sports off being pulled out of the soyuz

1401

01:32:49,990 --> 01:32:47,600

spacecraft here almost any time now the

1402

01:32:50,790 --> 01:32:50,000

chairs that they will be placed in with

1403

01:32:53,669 --> 01:32:50,800

very

1404

01:32:58,149 --> 01:32:53,679

warm blankets to cover them those have

1405

01:32:59,910 --> 01:32:58,159

been set up so we'll be expecting to see

1406

01:33:01,189 --> 01:32:59,920

the three crew members here before long

1407

01:33:03,430 --> 01:33:01,199

and now they're in the process of

1408

01:33:06,390 --> 01:33:03,440

pulling the first crew member out and

1409

01:33:09,590 --> 01:33:06,400

indeed alexander sports of the veteran

1410

01:33:11,910 --> 01:33:09,600

soyuz commander with more than 500 days

1411

01:33:13,669 --> 01:33:11,920

in space now on three space missions

1412

01:33:16,470 --> 01:33:13,679

smiling broadly

1413

01:33:18,390 --> 01:33:16,480

a whole flank of photographers and

1414

01:33:20,870 --> 01:33:18,400

television cameras here at the landing

1415

01:33:23,110 --> 01:33:20,880

site he is resting now on the edge of

1416

01:33:25,910 --> 01:33:23,120

the soyuz spacecraft and will be swung

1417

01:33:29,110 --> 01:33:25,920

around and assisted down the ladder and

1418

01:33:32,070 --> 01:33:29,120

be brought into his chair uh for a few

1419

01:33:33,750 --> 01:33:32,080

minutes to get his uh his equilibrium

1420

01:33:36,070 --> 01:33:33,760

back and uh

1421

01:33:38,709 --> 01:33:36,080

how does uh some of the rsc and nerdy

1422

01:33:48,149 --> 01:33:38,719

personnel in the process of removing him

1423

01:33:53,750 --> 01:33:50,070

and it looks like they are starting to

1424

01:33:55,189 --> 01:33:53,760

get uh to video um at the at the russian

1425

01:33:56,790 --> 01:33:55,199

flight control center

1426

01:33:58,709 --> 01:33:56,800

uh so hopefully we will we will be

1427

01:34:05,189 --> 01:33:58,719

seeing it for ourselves soon we're

1428

01:34:10,629 --> 01:34:07,750

guards off is out of the spacecraft uh he

1429

01:34:13,110 --> 01:34:10,639

will be uh helped down the slide that's

1430

01:34:15,750 --> 01:34:13,120

part of this latter apparatus at the

1431

01:34:18,709 --> 01:34:15,760

top hatch of the soyuz he's waving

1432

01:34:22,629 --> 01:34:18,719

smiling broadly thumbs up

1433

01:34:24,390 --> 01:34:22,639

and he is now back on tarot firma and we

1434

01:34:25,830 --> 01:34:24,400

are seeing that live now rob thanks so

1435

01:34:28,229 --> 01:34:25,840

much for keeping us informed while we

1436

01:34:32,470 --> 01:34:28,239

waited uh we got it just in time to see

1437

01:34:36,470 --> 01:34:34,149

very good we'll uh we'll hang here with

1438

01:34:43,830 --> 01:34:36,480

you brandi and provide any additional

1439

01:34:48,390 --> 01:34:46,550

i'm going to try to reposition myself

1440

01:34:50,390 --> 01:34:48,400

so i can uh get a better view of

1441

01:34:52,950 --> 01:34:50,400

christina cook or if she comes out of

1442

01:34:54,790 --> 01:34:52,960

the soyuz

1443

01:34:56,629 --> 01:34:54,800

alexander scorsov certainly looks like

1444

01:34:58,470 --> 01:34:56,639

he's glad to be home

1445

01:35:25,750 --> 01:34:58,480

pumping his fist into the air shaking

1446

01:35:29,030 --> 01:35:27,030

once again

1447

01:35:31,669 --> 01:35:29,040

on this mission alexander scorsov racked

1448

01:35:33,590 --> 01:35:31,679

up 201 days in space but he's adding

1449

01:35:35,830 --> 01:35:33,600

that to what he uh

1450

01:35:39,030 --> 01:35:35,840

what he uh

1451
01:35:41,669 --> 01:35:39,040
totald on previous space uh three uh

1452
01:35:42,590 --> 01:35:41,679
two previous space flights now to come

1453
01:35:45,189 --> 01:35:42,600
up with

1454
01:35:46,390 --> 01:35:45,199
546 days in total that he has spent in

1455
01:35:51,109 --> 01:35:46,400
space

1456
01:35:53,590 --> 01:35:51,119
and brandi if i might interrupt

1457
01:35:54,629 --> 01:35:53,600
christina cook your record holder she is

1458
01:35:58,550 --> 01:35:54,639
out

1459
01:36:03,109 --> 01:36:00,629
yes we are seeing it real time

1460
01:36:06,070 --> 01:36:03,119
she definitely looks glad to be home

1461
01:36:24,070 --> 01:36:06,080
again 328 days that she spent in space

1462
01:36:38,070 --> 01:36:26,950
cook now is going down the slide brandi

1463
01:36:40,870 --> 01:36:39,510

smiles and looking like she's feeling

1464

01:36:43,750 --> 01:36:40,880

great

1465

01:36:45,669 --> 01:36:43,760

yes we can still hear you rob

1466

01:37:08,629 --> 01:36:45,679

okay i'm gonna make my way over to

1467

01:37:08,639 --> 01:37:28,470

christina welcome home

1468

01:37:34,310 --> 01:37:31,430

current record holder for longest uh

1469

01:37:35,590 --> 01:37:34,320

single space flight by a woman of any

1470

01:37:38,310 --> 01:37:35,600

nationality

1471

01:37:40,870 --> 01:37:38,320

and seventh longest or seventh most

1472

01:37:50,390 --> 01:37:40,880

space flight time accumulated by uh by

1473

01:37:55,510 --> 01:37:52,790

the um granny they just scooted her

1474

01:37:56,709 --> 01:37:55,520

chair just a few feet back from where it

1475

01:37:58,229 --> 01:37:56,719

was

1476

01:38:00,709 --> 01:37:58,239

to give the

1477

01:38:03,189 --> 01:38:00,719

group of photographers and television

1478

01:38:06,390 --> 01:38:03,199

cameras here a little bit

1479

01:38:08,709 --> 01:38:06,400

more room to position themselves uh

1480

01:38:10,390 --> 01:38:08,719

is now done sunglasses as undoubtedly

1481

01:38:12,950 --> 01:38:10,400

you can see and they were awaiting uh

1482

01:38:15,030 --> 01:38:12,960

the extraction of luca palmitano who has

1483

01:38:26,070 --> 01:38:15,040

spent more days in space than any other

1484

01:38:29,750 --> 01:38:27,669

we're standing by for that we're still

1485

01:38:32,149 --> 01:38:29,760

at the moment seeing a view of alexander

1486

01:38:35,030 --> 01:38:32,159

schwartzoff still looking like he is

1487

01:38:53,870 --> 01:38:35,040

feeling pretty good and happy to be home

1488

01:38:53,880 --> 01:39:10,870

[Music]

1489

01:39:16,070 --> 01:39:13,590

brandon just looked around at the uh

1490

01:39:17,830 --> 01:39:16,080

a large uh group of uh

1491

01:39:20,870 --> 01:39:17,840

folks here to greet their hermit

1492

01:39:22,870 --> 01:39:20,880

roommates and she uttered the word wow

1493

01:39:26,470 --> 01:39:22,880

very impressed and very happy to be

1494

01:39:31,109 --> 01:39:26,480

breathing this nice cold air on

1495

01:39:36,550 --> 01:39:32,470

i think a lot of people are saying wow

1496

01:39:40,149 --> 01:39:38,790

big thumbs up for luca parmitano if

1497

01:39:41,590 --> 01:39:40,159

you're seeing him being held down the

1498

01:39:43,430 --> 01:39:41,600

slide

1499

01:39:45,950 --> 01:39:43,440

he is no stranger to

1500

01:39:50,070 --> 01:39:45,960

you landing support

1501

01:39:50,080 --> 01:40:01,750

and cook and just offer giving a big

1502

01:40:05,510 --> 01:40:03,910

looks like you've got three happy uh

1503

01:40:55,430 --> 01:40:05,520

astronauts there

1504

01:40:59,910 --> 01:40:57,830

as you pointed out he has uh most days

1505

01:41:02,070 --> 01:40:59,920

in space of any east astronaut at this

1506

01:41:05,270 --> 01:41:02,080

point uh with his uh two space flights

1507

01:41:08,070 --> 01:41:05,280

totaling 367 days in space

1508

01:41:13,430 --> 01:41:08,080

that includes the 201 that he uh that he

1509

01:41:19,669 --> 01:41:16,870

uh creole for all terrain is one police

1510

01:41:22,470 --> 01:41:19,679

crew member hold up to the perimeter of

1511

01:41:24,550 --> 01:41:22,480

the landing uh type

1512

01:41:25,990 --> 01:41:24,560

of crew members are finished in the

1513

01:41:28,390 --> 01:41:26,000

medical tent

1514

01:41:29,590 --> 01:41:28,400

they will be driven from the medical

1515

01:41:32,629 --> 01:41:29,600

tent uh

1516

01:41:34,629 --> 01:41:32,639

to their respective helicopters getting

1517

01:41:53,270 --> 01:41:34,639

the journey back to the staging city of

1518

01:41:56,790 --> 01:41:54,790

we're seeing alexander schwartzoff right

1519

01:41:59,109 --> 01:41:56,800

now on the phone i assume probably

1520

01:42:01,510 --> 01:41:59,119

talking to some to some family or

1521

01:42:03,669 --> 01:42:01,520

friends who are watching from a distance

1522

01:42:05,750 --> 01:42:03,679

although it looks crowded uh there at

1523

01:42:07,430 --> 01:42:05,760

the landing site from this view

1524

01:42:09,990 --> 01:42:07,440

if you were able to turn the camera

1525

01:42:11,910 --> 01:42:10,000

around it would be just uh empty space

1526

01:42:15,350 --> 01:42:11,920

all around them so they are really in

1527

01:42:17,990 --> 01:42:15,360

the middle of nowhere

1528

01:42:19,830 --> 01:42:18,000

yeah this uh this landing site which is

1529

01:42:22,070 --> 01:42:19,840

typical

1530

01:42:23,990 --> 01:42:22,080

in its latitude and longitude for soyuz

1531

01:42:26,470 --> 01:42:24,000

landing the nominal soyuz landings which

1532

01:42:29,189 --> 01:42:26,480

of course this one was

1533

01:42:30,950 --> 01:42:29,199

it's wide open spaces i'm just struck by

1534

01:42:34,070 --> 01:42:30,960

the natives who came out to watch this

1535

01:42:42,310 --> 01:42:34,080

landing on horseback who are just a few

1536

01:42:44,629 --> 01:42:43,750

that's the lucky chance for them getting

1537

01:43:00,950 --> 01:42:44,639

to see

1538

01:43:05,830 --> 01:43:03,189

randy i'm expecting that it will be just

1539

01:43:08,070 --> 01:43:05,840

a few more minutes before they start

1540

01:43:10,390 --> 01:43:08,080

to carry the crew members one by one to

1541

01:43:13,430 --> 01:43:10,400

the nearby medical tent i'm going to

1542

01:43:14,629 --> 01:43:13,440

take away here for a little bit

1543

01:43:17,030 --> 01:43:14,639

and we'll

1544

01:43:19,669 --> 01:43:17,040

let you know when that process begins if

1545

01:43:21,910 --> 01:43:19,679

you are not already seeing it i'm just

1546

01:43:23,590 --> 01:43:21,920

standing probably 15 feet away from the

1547

01:43:25,910 --> 01:43:23,600

soyuz spacecraft

1548

01:43:28,470 --> 01:43:25,920

some of the early return items are being

1549

01:43:29,750 --> 01:43:28,480

unloaded from the top hatch

1550

01:43:32,149 --> 01:43:29,760

that

1551
01:43:33,990 --> 01:43:32,159
the crew was extracted from just a few

1552
01:43:35,510 --> 01:43:34,000
minutes ago

1553
01:43:37,430 --> 01:43:35,520
i'm actually going to take a stroll over

1554
01:43:45,189 --> 01:43:37,440
here to take a closer look at the

1555
01:43:45,199 --> 01:43:52,229
local kozak residents

1556
01:43:55,669 --> 01:43:53,750
they're talking to some of the

1557
01:43:57,109 --> 01:43:55,679
engineering personnel

1558
01:43:58,310 --> 01:43:57,119
who are

1559
01:44:02,149 --> 01:43:58,320
took a moment

1560
01:44:05,270 --> 01:44:02,159
from working of a parachute

1561
01:44:08,390 --> 01:44:05,280
putting it in the right configuration

1562
01:44:10,629 --> 01:44:08,400
they have a dog with them so a little a

1563
01:44:12,870 --> 01:44:10,639

little bit of nature mixing with human

1564

01:44:14,229 --> 01:44:12,880

space flight out here today

1565

01:44:17,910 --> 01:44:14,239

now again you you've been out there a

1566

01:44:21,189 --> 01:44:17,920

number of times is that a first for you

1567

01:44:23,590 --> 01:44:21,199

i've never seen this randy um it's uh

1568

01:44:25,669 --> 01:44:23,600

it's remarkable i mean

1569

01:44:29,189 --> 01:44:25,679

there are small villages

1570

01:44:31,189 --> 01:44:29,199

uh in the uh in close proximity

1571

01:44:33,430 --> 01:44:31,199

to uh this landing site

1572

01:44:35,189 --> 01:44:33,440

not uh immediately

1573

01:44:36,870 --> 01:44:35,199

within a few feet of course or a few

1574

01:44:38,149 --> 01:44:36,880

miles but

1575

01:44:40,070 --> 01:44:38,159

for some

1576

01:44:42,149 --> 01:44:40,080

amazing reason these folks know when

1577

01:44:42,950 --> 01:44:42,159

landings are about to occur

1578

01:44:43,990 --> 01:44:42,960

and

1579

01:44:47,510 --> 01:44:44,000

in this

1580

01:44:49,109 --> 01:44:47,520

world of gps and other capabilities

1581

01:44:52,950 --> 01:44:49,119

they pretty much know exactly where

1582

01:44:59,510 --> 01:44:54,310

i would come out to see it if i were

1583

01:45:03,430 --> 01:45:02,149

the other thing that's quite remarkable

1584

01:45:05,030 --> 01:45:03,440

is

1585

01:45:06,870 --> 01:45:05,040

the fact that

1586

01:45:08,709 --> 01:45:06,880

this cold front that brought about a

1587

01:45:10,950 --> 01:45:08,719

foot of snow to the region

1588

01:45:14,229 --> 01:45:10,960

uh in the last few days

1589

01:45:17,270 --> 01:45:14,239

it blew through right on right on time

1590

01:45:19,430 --> 01:45:17,280

and as predicted uh when we left uh the

1591

01:45:23,430 --> 01:45:19,440

staging city of karaganda earlier this

1592

01:45:26,310 --> 01:45:23,440

morning it was uh very very gray

1593

01:45:28,790 --> 01:45:26,320

overcast and it was snowing uh to the

1594

01:45:31,189 --> 01:45:28,800

northeast uh as soon as we got airborne

1595

01:45:33,590 --> 01:45:31,199

and the helicopters however

1596

01:45:34,870 --> 01:45:33,600

we could see clear skies as far as the

1597

01:45:37,830 --> 01:45:34,880

eye could see

1598

01:45:39,750 --> 01:45:37,840

and it has turned into a gorgeous winter

1599

01:45:41,750 --> 01:45:39,760

day

1600

01:45:44,390 --> 01:45:41,760

we're seeing sports of eat an apple

1601
01:45:46,950 --> 01:45:44,400
right now i know that christina cook was

1602
01:45:50,310 --> 01:45:46,960
craving chips and salsa i think that's

1603
01:45:53,510 --> 01:45:50,320
in her in her near future

1604
01:45:56,310 --> 01:45:53,520
no question there there are enough ships

1605
01:45:58,950 --> 01:45:56,320
salsa on the nasa plain home

1606
01:46:00,790 --> 01:45:58,960
who accommodate several uh napkin

1607
01:46:01,830 --> 01:46:00,800
restaurants back in houston i will tell

1608
01:46:04,870 --> 01:46:01,840
you

1609
01:46:14,629 --> 01:46:04,880
no shortage of uh her favorite delicacy

1610
01:46:20,629 --> 01:46:16,470
everyone still uh

1611
01:46:24,629 --> 01:46:22,790
they're all happy of course they've gone

1612
01:46:26,870 --> 01:46:24,639
into the process of the traditional

1613
01:46:53,510 --> 01:46:26,880

group picture

1614

01:46:58,070 --> 01:46:55,990

sounds like we lost uh rob navies there

1615

01:47:00,149 --> 01:46:58,080

giving us the playback play from on uh

1616

01:47:01,669 --> 01:47:00,159

on the scene in kazakhstan

1617

01:47:05,030 --> 01:47:01,679

but as you can see we've still got the

1618

01:47:08,870 --> 01:47:05,040

video so uh able to see as uh the uh as

1619

01:47:13,750 --> 01:47:12,310

as the activities continue that they uh

1620

01:47:15,750 --> 01:47:13,760

they should be preparing to move the

1621

01:47:52,430 --> 01:47:15,760

crew into the medical tent sometime

1622

01:47:52,440 --> 01:47:58,070

[Music]

1623

01:47:58,080 --> 01:48:17,510

thank you

1624

01:48:17,520 --> 01:48:26,200

my blanket trains

1625

01:48:26,210 --> 01:48:33,030

[Music]

1626

01:48:36,550 --> 01:48:35,109

looks like that moved medical tent is

1627

01:48:39,270 --> 01:48:36,560

imminent starting with alexander

1628

01:48:42,790 --> 01:48:41,510

the landing support personnel will will

1629

01:48:44,790 --> 01:48:42,800

carry the crew members into the tent

1630

01:48:47,270 --> 01:48:44,800

just so they don't have to

1631

01:48:51,350 --> 01:48:47,280

have to risk moving on their own when

1632

01:49:13,669 --> 01:48:51,360

their equilibrium may still be adjusting

1633

01:49:27,270 --> 01:49:14,310

what

1634

01:49:27,280 --> 01:49:41,990

um

1635

01:49:42,000 --> 01:50:07,030

huh

1636

01:50:09,350 --> 01:50:08,310

it's all of you there of alexander

1637

01:50:10,870 --> 01:50:09,360

sports

1638

01:50:11,990 --> 01:50:10,880

disappearing into the medical tent again

1639

01:50:14,470 --> 01:50:12,000

they've got

1640

01:50:16,629 --> 01:50:14,480

several post landing uh checkups they'll

1641

01:50:18,950 --> 01:50:16,639

go through and

1642

01:50:21,030 --> 01:50:18,960

we also now have back online with us rob

1643

01:50:29,140 --> 01:50:21,040

navies who's there on the scene

1644

01:50:29,150 --> 01:50:36,830

[Music]

1645

01:50:41,910 --> 01:50:38,790

uh another short

1646

01:50:44,070 --> 01:50:41,920

ride being carried by human space agency

1647

01:50:46,149 --> 01:50:44,080

and russian personnel to that medical

1648

01:50:49,350 --> 01:50:46,159

tent christina cook will follow in very

1649

01:50:54,629 --> 01:50:51,430

yes we're seeing luca parmitano on his

1650

01:51:01,109 --> 01:50:57,270

and christina cook is now being hoisted

1651
01:51:02,629 --> 01:51:01,119
by nasa and russian personnel

1652
01:51:04,149 --> 01:51:02,639
and

1653
01:51:07,830 --> 01:51:04,159
she will be brought into the medical

1654
01:51:09,669 --> 01:51:07,840
center begin her medical uh testing

1655
01:51:10,790 --> 01:51:09,679
we mentioned a hour and a half to

1656
01:51:12,790 --> 01:51:10,800
complete

1657
01:51:15,030 --> 01:51:12,800
so we'll turn it back over to you brandi

1658
01:51:17,750 --> 01:51:15,040
uh in mission control in houston and uh

1659
01:51:21,350 --> 01:51:17,760
we'll be talking to you later

1660
01:51:23,510 --> 01:51:21,360
after we begin the trip back to houston

1661
01:51:24,709 --> 01:51:23,520
thanks so much for for all the uh the

1662
01:51:26,629 --> 01:51:24,719
great descriptions robbie really

1663
01:51:29,510 --> 01:51:26,639

appreciate you calling in and please

1664

01:51:31,189 --> 01:51:29,520

pass on our uh congrats and welcome

1665

01:51:34,070 --> 01:51:31,199

homes to to all three of the crew

1666

01:51:37,669 --> 01:51:34,080

members

1667

01:51:40,070 --> 01:51:37,679

well we will do that brandy and

1668

01:51:43,189 --> 01:51:40,080

have a good rest of the day

1669

01:51:46,149 --> 01:51:43,199

another successful space station mission

1670

01:51:49,990 --> 01:51:48,470

indeed thanks again rob and uh we

1671

01:51:52,950 --> 01:51:50,000

appreciate that

1672

01:52:04,070 --> 01:51:52,960

uh your your play by play it's been been

1673

01:52:09,030 --> 01:52:06,149

and there is christina cook making her

1674

01:52:11,270 --> 01:52:09,040

own way into the medical tent

1675

01:52:12,709 --> 01:52:11,280

still with smiles and thumbs up

1676

01:52:14,229 --> 01:52:12,719

all the crew members seeming like

1677

01:52:16,070 --> 01:52:14,239

they're feeling pretty well for having

1678

01:52:36,310 --> 01:52:16,080

uh spent

1679

01:52:39,510 --> 01:52:37,750

the checkups that the crew members

1680

01:52:41,750 --> 01:52:39,520

undergo inside the medical tent to take

1681

01:52:44,870 --> 01:52:41,760

a while so that will be the last that we

1682

01:52:47,589 --> 01:52:44,880

see of them for for our landing coverage

1683

01:52:49,990 --> 01:52:47,599

here today hopefully we'll be able to uh

1684

01:52:52,550 --> 01:52:50,000

to get you some video as they begin

1685

01:52:55,030 --> 01:52:52,560

making their way home um through video

1686

01:52:56,950 --> 01:52:55,040

files uh coming up but uh

1687

01:53:00,629 --> 01:52:56,960

that uh that is probably the last we'll

1688

01:53:00,639 --> 01:53:08,070

in kazakhstan

1689

01:53:12,470 --> 01:53:10,629

you can see there some of the

1690

01:53:15,189 --> 01:53:12,480

some of the nearby residents who have

1691

01:53:24,470 --> 01:53:17,350

to see the the ceremony that welcome

1692

01:53:29,750 --> 01:53:27,430

and a great view of the soyuz

1693

01:53:31,510 --> 01:53:29,760

ms-13 here

1694

01:53:35,750 --> 01:53:31,520

still being unloaded they'll be getting

1695

01:53:38,870 --> 01:53:35,760

a lot of science experiments and

1696

01:53:40,550 --> 01:53:38,880

data off of the off the spacecraft

1697

01:54:13,430 --> 01:53:40,560

it'll be making their its way home

1698

01:54:13,440 --> 01:57:43,109

me

1699

01:57:47,030 --> 01:57:45,030

once again with the crew now inside the

1700

01:57:48,709 --> 01:57:47,040

medical tent we don't expect to see them

1701

01:57:51,270 --> 01:57:48,719

again from the landing site in

1702

01:57:54,070 --> 01:57:51,280

kazakhstan so we did want to go over

1703

01:57:56,470 --> 01:57:54,080

though uh some of the the record set uh

1704

01:57:58,310 --> 01:57:56,480

the and the totals and stats for this

1705

01:58:00,870 --> 01:57:58,320

mission before we do wrap up our

1706

01:58:03,830 --> 01:58:00,880

coverage uh of course uh for luca

1707

01:58:05,030 --> 01:58:03,840

parmitano and alexander schwarzov they

1708

01:58:08,310 --> 01:58:05,040

launched

1709

01:58:11,189 --> 01:58:08,320

in july on july 20th along with andrew

1710

01:58:13,990 --> 01:58:11,199

morgan from kazakhstan so they have a

1711

01:58:16,149 --> 01:58:14,000

total of 201 days in space for this

1712

01:58:17,669 --> 01:58:16,159

mission but hell but this is not either

1713

01:58:19,750 --> 01:58:17,679

of their first missions so they have

1714

01:58:22,310 --> 01:58:19,760

additional additional totals to add that

1715

01:58:25,589 --> 01:58:22,320

to for alexander sportszov he now has

1716

01:58:28,310 --> 01:58:25,599

racked up 546 days in space over the

1717

01:58:30,629 --> 01:58:28,320

three flights that he has been a part of

1718

01:58:42,190 --> 01:58:30,639

for luca parmitano with two flights the

1719

01:58:42,200 --> 01:58:56,070

[Music]

1720

01:59:01,109 --> 01:58:59,030

hi i'm john grunsfeld nasa astronaut hi

1721

01:59:03,109 --> 01:59:01,119

i'm christy hansen johnson space center

1722

01:59:05,750 --> 01:59:03,119

eva task astronaut training lead and

1723

01:59:08,149 --> 01:59:05,760

flight controller and eva means extra

1724

01:59:10,629 --> 01:59:08,159

vehicular activity which is just another

1725

01:59:12,470 --> 01:59:10,639

long way of saying space walk and i got

1726

01:59:15,510 --> 01:59:12,480

to do eight space walks on the hubble

1727

01:59:18,149 --> 01:59:15,520

space telescope you might wonder

1728

01:59:20,149 --> 01:59:18,159

how did we learn to do the complex tasks

1729

01:59:21,589 --> 01:59:20,159

using all the cool tools

1730

01:59:23,750 --> 01:59:21,599

that we used on the hubble space

1731

01:59:26,229 --> 01:59:23,760

telescope christie how did we learn how

1732

01:59:28,470 --> 01:59:26,239

to do all of that so as the eva task

1733

01:59:30,470 --> 01:59:28,480

training lead one of my big duties was