



1
00:00:33,950 --> 00:00:01,790

[Music]

2
00:00:41,820 --> 00:00:35,030

together

3
00:00:52,430 --> 00:00:50,090

[Music]

4
00:00:55,069 --> 00:00:52,440
you're watching live coverage of the

5
00:00:57,170 --> 00:00:55,079
NASA SpaceX crew 5 Mission as they

6
00:00:58,970 --> 00:00:57,180
return to Earth Dragon endurance

7
00:01:02,450 --> 00:00:58,980
Departed the International Space Station

8
00:01:04,490 --> 00:01:02,460
at 11 20 p.m Pacific last night with

9
00:01:07,490 --> 00:01:04,500
NASA astronauts Nicole Mann and Josh

10
00:01:09,950 --> 00:01:07,500
Josh cassida jaxa astronaut koichi

11
00:01:11,990 --> 00:01:09,960
wakada and roscosmos cosmonaut in

12
00:01:14,270 --> 00:01:12,000
akikuna currently they're on their way

13
00:01:16,609 --> 00:01:14,280

to the targeted Splashdown site off the

14

00:01:18,109 --> 00:01:16,619

coast of Tampa Florida my name is Kate

15

00:01:20,570 --> 00:01:18,119

Tice and I'm the quality systems

16

00:01:21,830 --> 00:01:20,580

engineering manager here at SpaceX and

17

00:01:24,050 --> 00:01:21,840

joining me today from NASA

18

00:01:25,910 --> 00:01:24,060

Communications is Leah Cheshire thanks

19

00:01:27,649 --> 00:01:25,920

Kate it's always great to be here and of

20

00:01:29,090 --> 00:01:27,659

course another exciting day bringing a

21

00:01:31,850 --> 00:01:29,100

crew back from the International Space

22

00:01:34,429 --> 00:01:31,860

Station so upon departing station Dragon

23

00:01:36,170 --> 00:01:34,439

underwent a sequence of departure Burns

24

00:01:38,030 --> 00:01:36,180

since then the crew had a rest period

25

00:01:39,830 --> 00:01:38,040

and has since kicked off preparations

26
00:01:42,170 --> 00:01:39,840
for re-entry things are sounding pretty

27
00:01:43,730 --> 00:01:42,180
good so far so in this next phase of the

28
00:01:45,950 --> 00:01:43,740
mission is when things really ramp up

29
00:01:47,270 --> 00:01:45,960
and happen pretty quickly dragon has a

30
00:01:50,090 --> 00:01:47,280
series of steps to complete before

31
00:01:52,429 --> 00:01:50,100
returning crew 5 back to Earth First

32
00:01:54,710 --> 00:01:52,439
Dragon will maneuver to the correct

33
00:01:56,810 --> 00:01:54,720
attitude and jettison its trunk which is

34
00:01:58,670 --> 00:01:56,820
the cylindrical unpressurized part of

35
00:02:00,530 --> 00:01:58,680
the spacecraft the trunk is currently

36
00:02:02,990 --> 00:02:00,540
connected to the AFT or the bottom

37
00:02:05,209 --> 00:02:03,000
section of the Dragon capsule where the

38
00:02:06,830 --> 00:02:05,219

heat shield is located so in order to

39

00:02:08,749 --> 00:02:06,840

expose that heat shield and get the

40

00:02:11,330 --> 00:02:08,759

vehicle ready for atmospheric re-entry

41

00:02:13,490 --> 00:02:11,340

we'll jettison that trunk and just a

42

00:02:16,910 --> 00:02:13,500

quick look right now inside crew Dragon

43

00:02:19,089 --> 00:02:16,920

uh with our commander Nicole Mann on the

44

00:02:21,530 --> 00:02:19,099

left and pilot Josh Cassida on the right

45

00:02:23,809 --> 00:02:21,540

after we jettison that trunk we're

46

00:02:25,190 --> 00:02:23,819

looking for that to come up uh not too

47

00:02:26,449 --> 00:02:25,200

long from now but from there the

48

00:02:28,729 --> 00:02:26,459

spacecraft will use its forward

49

00:02:30,949 --> 00:02:28,739

thrusters to perform the deorbit burn

50

00:02:33,050 --> 00:02:30,959

which will put dragon on a trajectory to

51
00:02:35,390 --> 00:02:33,060
return to Earth the burn will last just

52
00:02:38,210 --> 00:02:35,400
over 11 minutes once it starts and it

53
00:02:40,010 --> 00:02:38,220
uses the Draco thrusters on Dragon these

54
00:02:42,589 --> 00:02:40,020
are the four located on the forward

55
00:02:44,210 --> 00:02:42,599
bulkhead primarily and it's executed at

56
00:02:46,490 --> 00:02:44,220
the apogee or the highest point of

57
00:02:48,229 --> 00:02:46,500
dragon's current orbit around Earth this

58
00:02:49,850 --> 00:02:48,239
will alter dragon's paths ultimately

59
00:02:51,530 --> 00:02:49,860
line it up to re-enter Earth's

60
00:02:53,150 --> 00:02:51,540
atmosphere and splash down off the coast

61
00:02:54,890 --> 00:02:53,160
of Tampa Florida

62
00:02:57,110 --> 00:02:54,900
uh that's right and we're actually

63
00:02:59,089 --> 00:02:57,120

looking at that trunk separation to

64

00:03:02,750 --> 00:02:59,099

happen in about three minutes the orbit

65

00:03:02,760 --> 00:03:05,630

and we've heard

66

00:03:09,470 --> 00:03:07,850

good calls from the corps here in

67

00:03:10,970 --> 00:03:09,480

Mission Control Hawthorne that's the

68

00:03:13,490 --> 00:03:10,980

mission control room you see on your

69

00:03:15,470 --> 00:03:13,500

screen to the crew another good interior

70

00:03:17,149 --> 00:03:15,480

shot down in the bottom left-hand Corner

71

00:03:20,809 --> 00:03:17,159

that's onakikina there is Cosmos

72

00:03:23,690 --> 00:03:20,819

Cosmonaut that has flown on crew 5 and

73

00:03:25,430 --> 00:03:23,700

then we are also on the other side of

74

00:03:27,910 --> 00:03:25,440

the spacecraft we didn't get a good look

75

00:03:30,649 --> 00:03:27,920

at him but it's koichiwakata that jaxa

76

00:03:32,690 --> 00:03:30,659

astronaut that has joined us as well so

77

00:03:35,089 --> 00:03:32,700

again good calls we've heard good

78

00:03:36,649 --> 00:03:35,099

confirmation of suit leak checks up

79

00:03:38,509 --> 00:03:36,659

until this point as you can see the

80

00:03:40,789 --> 00:03:38,519

astronauts are in their suits and seats

81

00:03:42,710 --> 00:03:40,799

after they had some time to rest and

82

00:03:44,990 --> 00:03:42,720

relax over the past what's it been

83

00:03:46,430 --> 00:03:45,000

18-ish hours since they undocked

84

00:03:48,110 --> 00:03:46,440

yesterday yeah

85

00:03:49,670 --> 00:03:48,120

um like everything that occurs on the

86

00:03:51,830 --> 00:03:49,680

International Space Station everything

87

00:03:53,869 --> 00:03:51,840

is scheduled it's choreographed

88

00:03:56,509 --> 00:03:53,879

including that sleep period that crew

89

00:04:01,009 --> 00:03:56,519

rest period where basically the crew got

90

00:04:04,610 --> 00:04:01,019

to clock off duty and rest relax enjoy

91

00:04:06,830 --> 00:04:04,620

the view I would imagine yeah absolutely

92

00:04:09,050 --> 00:04:06,840

so at this point in time like we

93

00:04:11,570 --> 00:04:09,060

mentioned we are coming up to the

94

00:04:13,910 --> 00:04:11,580

separation of the claw which is the

95

00:04:16,430 --> 00:04:13,920

mechanism that holds that trunk that

96

00:04:19,670 --> 00:04:16,440

unpressurized uh section of the Dragon

97

00:04:21,530 --> 00:04:19,680

capsule onto the pressurized section

98

00:04:23,450 --> 00:04:21,540

um so we're about a minute away from

99

00:04:26,510 --> 00:04:23,460

that claw separation and then trunk

100

00:04:28,070 --> 00:04:26,520

separation uh will occur about in about

101

00:04:29,810 --> 00:04:28,080

a minute and a half

102

00:04:31,430 --> 00:04:29,820

um so yeah that trunk like we said

103

00:04:33,830 --> 00:04:31,440

before is the unpressurized section

104

00:04:35,629 --> 00:04:33,840

that's where we can store cargo that is

105

00:04:37,969 --> 00:04:35,639

able to be exposed to the vacuum of

106

00:04:39,950 --> 00:04:37,979

space and of course the astronauts are

107

00:04:41,810 --> 00:04:39,960

in the pressurized section but that heat

108

00:04:43,310 --> 00:04:41,820

shield is located at the bottom of the

109

00:04:45,770 --> 00:04:43,320

pressurized section so it's currently

110

00:04:47,330 --> 00:04:45,780

being covered up by that trunk so we'll

111

00:04:49,310 --> 00:04:47,340

separate the trunk to expose that heat

112

00:04:51,110 --> 00:04:49,320

shield another important thing to note

113

00:04:52,909 --> 00:04:51,120

is when we do claw separation we're

114

00:04:55,370 --> 00:04:52,919

separating those umbilicals that connect

115

00:04:57,230 --> 00:04:55,380

the trunk to the pressurized section or

116

00:04:59,990 --> 00:04:57,240

the actual Dragon capsule where the

117

00:05:01,610 --> 00:05:00,000

astronauts are so the solar cells that

118

00:05:03,050 --> 00:05:01,620

are wrapped around the trunk those will

119

00:05:05,270 --> 00:05:03,060

of course be detached and once we

120

00:05:08,150 --> 00:05:05,280

dispose of the trunk dragging it will be

121

00:05:10,490 --> 00:05:08,160

on internal battery power yeah so pretty

122

00:05:13,010 --> 00:05:10,500

exciting um all of this

123

00:05:15,710 --> 00:05:13,020

um you know as you mentioned Leah it's

124

00:05:17,930 --> 00:05:15,720

been 18 hours of progress

125

00:05:20,330 --> 00:05:17,940

um but at this point in time to prepare

126
00:05:22,249 --> 00:05:20,340
for the upcoming events uh right now the

127
00:05:23,930 --> 00:05:22,259
dragon spacecraft is doing a couple of

128
00:05:26,749 --> 00:05:23,940
things autonomously meaning it's doing

129
00:05:28,670 --> 00:05:26,759
it on its own it's isolating the thermal

130
00:05:31,189 --> 00:05:28,680
control system fluid Loops from the

131
00:05:33,189 --> 00:05:31,199
radiator this system is what will help

132
00:05:36,230 --> 00:05:33,199
keep the internal temperature of dragon

133
00:05:38,510 --> 00:05:36,240
uh very comfortable for Nicole Josh

134
00:05:41,150 --> 00:05:38,520
koichi and Anna during that re-entry

135
00:05:43,370 --> 00:05:41,160
phase dragon is also initiating

136
00:05:46,189 --> 00:05:43,380
separation of the claw mechanism like I

137
00:05:49,010 --> 00:05:46,199
said that's coming up uh in about 10

138
00:05:51,110 --> 00:05:49,020

seconds or so and that will terminate

139

00:05:52,850 --> 00:05:51,120

like Leah just said that data the power

140

00:05:54,590 --> 00:05:52,860

and the fluid connections between the

141

00:05:56,510 --> 00:05:54,600

capsule and the trunk

142

00:05:59,810 --> 00:05:56,520

so we're standing by to listen for the

143

00:06:02,570 --> 00:05:59,820

call out for trunk separation

144

00:06:04,010 --> 00:06:02,580

and I got one update that we are in the

145

00:06:05,810 --> 00:06:04,020

proper attitude for that trunk

146

00:06:07,490 --> 00:06:05,820

separation so just one more of those

147

00:06:11,270 --> 00:06:07,500

checks that we were standing by to hear

148

00:06:14,150 --> 00:06:11,280

again we are just in a waiting game

149

00:06:16,010 --> 00:06:14,160

until we have that claw and trunk

150

00:06:19,310 --> 00:06:16,020

separation but that

151
00:06:21,050 --> 00:06:19,320
nominal trunk jettison

152
00:06:25,730 --> 00:06:21,060
all right there's that call great news

153
00:06:29,029 --> 00:06:27,469
so as you can hear that like we

154
00:06:30,770 --> 00:06:29,039
mentioned is the core calling out to the

155
00:06:32,330 --> 00:06:30,780
crew they report that they copy because

156
00:06:34,070 --> 00:06:32,340
they're able to keep track of it on

157
00:06:36,710 --> 00:06:34,080
those crew displays that we could see

158
00:06:38,749 --> 00:06:36,720
over their shoulders so again the claw

159
00:06:40,730 --> 00:06:38,759
and trunk just separated the claws where

160
00:06:43,370 --> 00:06:40,740
those umbilicals for power and Telemetry

161
00:06:45,529 --> 00:06:43,380
are from the trunk and its solar arrays

162
00:06:47,350 --> 00:06:45,539
connect to the capsule so now that

163
00:06:51,170 --> 00:06:47,360

they're disconnected again dragon is

164

00:06:53,450 --> 00:06:51,180

exclusively on battery power and we just

165

00:06:55,790 --> 00:06:53,460

uh additionally got that confirmation of

166

00:06:58,370 --> 00:06:55,800

successful trunk jettison as well

167

00:07:01,909 --> 00:06:58,380

coming right on time at about 506 PM

168

00:07:06,350 --> 00:07:04,010

so with that trunk separation Telemetry

169

00:07:09,050 --> 00:07:06,360

is looking good the nitrox system is

170

00:07:11,390 --> 00:07:09,060

primed for cabin and suit Cooling and

171

00:07:14,210 --> 00:07:11,400

the heat shield is now exposed the trunk

172

00:07:17,210 --> 00:07:14,220

is no longer needed and that is setting

173

00:07:20,450 --> 00:07:17,220

us up for our deorbit burn here coming

174

00:07:22,670 --> 00:07:20,460

up scheduled to start at 5 11 pm Pacific

175

00:07:24,350 --> 00:07:22,680

time again we anticipate that will last

176

00:07:27,110 --> 00:07:24,360

about 11 minutes

177

00:07:29,510 --> 00:07:27,120

yeah that burn acts I mean that burn is

178

00:07:31,730 --> 00:07:29,520

an important one that is what commits

179

00:07:32,689 --> 00:07:31,740

the crew to that location like we said

180

00:07:34,969 --> 00:07:32,699

we're

181

00:07:36,650 --> 00:07:34,979

um setting up for a landing off the

182

00:07:38,809 --> 00:07:36,660

coast of Tampa Florida

183

00:07:41,089 --> 00:07:38,819

um and it's that de-orbit burn that um

184

00:07:43,370 --> 00:07:41,099

is the final burn that Dragon performs

185

00:07:45,890 --> 00:07:43,380

to really re-enter the Earth's

186

00:07:48,110 --> 00:07:45,900

atmosphere now up next we have the final

187

00:07:51,230 --> 00:07:48,120

steps that Dragon will perform prior to

188

00:07:53,870 --> 00:07:51,240

re-entry the slough or maneuver to uh

189

00:07:55,670 --> 00:07:53,880

Dior burn attitude and the do orbit burn

190

00:07:58,249 --> 00:07:55,680

itself Leah you did indicate that that

191

00:08:00,830 --> 00:07:58,259

attitude was correct in that we're gonna

192

00:08:02,330 --> 00:08:00,840

start that do orbit burn soon that will

193

00:08:04,850 --> 00:08:02,340

be the last time that the forward

194

00:08:07,129 --> 00:08:04,860

draco's which are the fourth thrust

195

00:08:09,050 --> 00:08:07,139

thrusters located on top of the vehicle

196

00:08:11,029 --> 00:08:09,060

near the nose cone it's the last time

197

00:08:12,710 --> 00:08:11,039

that those will ignite the deorbit burn

198

00:08:15,890 --> 00:08:12,720

will place dragon on a precise

199

00:08:18,290 --> 00:08:15,900

trajectory to return to the Splashdown

200

00:08:20,210 --> 00:08:18,300

Zone off the coast of Florida and like

201
00:08:21,890 --> 00:08:20,220
Leo said it'll last about 11 minutes

202
00:08:23,869 --> 00:08:21,900
once it begins

203
00:08:28,490 --> 00:08:23,879
and again we're tracking that to come

204
00:08:30,529 --> 00:08:28,500
around uh 5 11 p.m Pacific so 8 11 p.m

205
00:08:32,510 --> 00:08:30,539
eastern time and we are actually under

206
00:08:34,190 --> 00:08:32,520
an hour now until our anticipated

207
00:08:36,230 --> 00:08:34,200
Splashdown time so when we say things

208
00:08:37,730 --> 00:08:36,240
are happening fast they are happening

209
00:08:39,170 --> 00:08:37,740
pretty fast

210
00:08:41,870 --> 00:08:39,180
um but again this is an autonomous

211
00:08:44,029 --> 00:08:41,880
flight like we've seen with dragon uh in

212
00:08:46,190 --> 00:08:44,039
the past and our four crew members are

213
00:08:48,230 --> 00:08:46,200

riding comfortably it appears their

214

00:08:50,389 --> 00:08:48,240

visors are still up

215

00:08:52,070 --> 00:08:50,399

um once we get closer to that do orbit

216

00:08:53,269 --> 00:08:52,080

burn we anticipate to hear a call from

217

00:08:55,550 --> 00:08:53,279

the court of the crude go ahead and

218

00:08:58,370 --> 00:08:55,560

lower their visors just as a

219

00:09:01,130 --> 00:08:58,380

precautionary measure ahead of that

220

00:09:04,009 --> 00:09:01,140

major burn that's right and the crew has

221

00:09:07,550 --> 00:09:04,019

already completed the required suit leak

222

00:09:10,850 --> 00:09:07,560

checks uh it's basically when they put

223

00:09:14,570 --> 00:09:10,860

pull all the zippers up close the visor

224

00:09:16,910 --> 00:09:14,580

into the locked position and uh the

225

00:09:19,850 --> 00:09:16,920

dragon spacecraft pressurizes or

226

00:09:21,949 --> 00:09:19,860

basically flows a little bit of that air

227

00:09:24,230 --> 00:09:21,959

into the suits and holds it at a certain

228

00:09:26,150 --> 00:09:24,240

pressure for a certain amount of time

229

00:09:28,550 --> 00:09:26,160

usually a couple minutes just to make

230

00:09:29,930 --> 00:09:28,560

sure that those suits are all basically

231

00:09:32,810 --> 00:09:29,940

all the zippers are in place and that

232

00:09:35,030 --> 00:09:32,820

that seal with the visor is functional

233

00:09:37,970 --> 00:09:35,040

and really just making sure that that

234

00:09:39,889 --> 00:09:37,980

the spacesuit provides its own

235

00:09:43,190 --> 00:09:39,899

individual environment for the crew

236

00:09:45,769 --> 00:09:43,200

member during the more Dynamic events of

237

00:09:47,990 --> 00:09:45,779

of today's procedures so like Leah just

238

00:09:50,329 --> 00:09:48,000

said we can see that those visors are

239

00:09:51,769 --> 00:09:50,339

still up but we know that they've

240

00:09:54,350 --> 00:09:51,779

already completed the suit leak checks

241

00:09:55,790 --> 00:09:54,360

had four good leak checks there you can

242

00:09:58,910 --> 00:09:55,800

it's also a great shot because you can

243

00:10:01,190 --> 00:09:58,920

see the tablet on Commander Nicole man's

244

00:10:03,910 --> 00:10:01,200

leg so those are the tablets that are

245

00:10:06,590 --> 00:10:03,920

used for monitoring dragon's progress

246

00:10:09,650 --> 00:10:06,600

and and the different statuses and

247

00:10:12,050 --> 00:10:09,660

states the vehicle is in it's also what

248

00:10:14,570 --> 00:10:12,060

they use to log the consumables during

249

00:10:17,570 --> 00:10:14,580

flight so we talked before about that

250

00:10:19,670 --> 00:10:17,580

period of time where the crew is off

251
00:10:20,750 --> 00:10:19,680
duty they can do whatever they want to

252
00:10:23,150 --> 00:10:20,760
do

253
00:10:25,730 --> 00:10:23,160
um and as you can imagine being staying

254
00:10:28,070 --> 00:10:25,740
hydrating staying staying hydrated is

255
00:10:30,410 --> 00:10:28,080
important and they use those tablets to

256
00:10:32,870 --> 00:10:30,420
track how much water they drank and out

257
00:10:34,490 --> 00:10:32,880
of which water bottle it was so it's

258
00:10:36,290 --> 00:10:34,500
just helping to

259
00:10:37,970 --> 00:10:36,300
make make sure that everything is

260
00:10:40,850 --> 00:10:37,980
accounted for

261
00:10:42,829 --> 00:10:40,860
like we said we're coming up to uh the

262
00:10:45,470 --> 00:10:42,839
Dew orbit burn

263
00:10:56,569 --> 00:10:45,480

about five seconds away

264

00:11:02,030 --> 00:10:58,910

now again this is going to be an 11

265

00:11:03,889 --> 00:11:02,040

minute burn approximately

266

00:11:05,930 --> 00:11:03,899

just over 11 minutes it's pretty large

267

00:11:09,350 --> 00:11:05,940

we've got to slow the astronauts down

268

00:11:12,110 --> 00:11:09,360

from orbital velocity at 17 500 miles

269

00:11:13,250 --> 00:11:12,120

per hour and put them on that track to

270

00:11:15,290 --> 00:11:13,260

uh

271

00:11:17,449 --> 00:11:15,300

through Tampa Florida and not splash

272

00:11:20,150 --> 00:11:17,459

down if you look you can see the windows

273

00:11:22,130 --> 00:11:20,160

near Josh cast with his feet actually

274

00:11:23,930 --> 00:11:22,140

it's in the background but it's bright

275

00:11:26,030 --> 00:11:23,940

it's it's clearly they're in an orbital

276

00:11:28,610 --> 00:11:26,040

daylight when you're traveling at

277

00:11:30,710 --> 00:11:28,620

orbital velocity 17 500 miles per hour

278

00:11:32,810 --> 00:11:30,720

you see a sunrise and a sunset every 45

279

00:11:35,569 --> 00:11:32,820

minutes

280

00:11:36,889 --> 00:11:35,579

and if you look on their crew displays

281

00:11:39,110 --> 00:11:36,899

it looks like you can see some of the

282

00:11:39,949 --> 00:11:39,120

thrusters are firing so

283

00:11:42,410 --> 00:11:39,959

um

284

00:11:45,829 --> 00:11:42,420

sounds like the

285

00:11:48,769 --> 00:11:45,839

orbit burn is underway again started

286

00:11:51,710 --> 00:11:48,779

right on time at 5 11 p.m Pacific

287

00:11:53,870 --> 00:11:51,720

targeting about 11 minutes for that burn

288

00:11:58,670 --> 00:11:53,880

we're looking at about 10 minutes and 20

289

00:12:03,710 --> 00:12:01,130

within just the last 10 minutes Dragon

290

00:12:06,829 --> 00:12:03,720

jettisoned its trunk it initiated that

291

00:12:08,870 --> 00:12:06,839

orbit burn about two minutes ago now

292

00:12:11,150 --> 00:12:08,880

so for these operations NASA and SpaceX

293

00:12:13,069 --> 00:12:11,160

closely coordinate with the United

294

00:12:15,170 --> 00:12:13,079

States Coast Guard and have established

295

00:12:17,449 --> 00:12:15,180

a safety zone to ensure public safety

296

00:12:19,970 --> 00:12:17,459

safety of those involved and in the

297

00:12:21,290 --> 00:12:19,980

recovery operations as well as of course

298

00:12:23,449 --> 00:12:21,300

our crew on board the returning

299

00:12:25,430 --> 00:12:23,459

spacecraft so multiple notices are

300

00:12:27,650 --> 00:12:25,440

issued to the Mariners in advance and

301
00:12:29,210 --> 00:12:27,660
during recovery operations and Coast

302
00:12:31,550 --> 00:12:29,220
Guard Patrol boats are deployed to

303
00:12:33,769 --> 00:12:31,560
discourage boaters from entering the

304
00:12:35,569 --> 00:12:33,779
Splashdown zones so we want to take a

305
00:12:38,870 --> 00:12:35,579
moment to stress to the public the need

306
00:12:40,910 --> 00:12:38,880
to respect this safety zone recovering a

307
00:12:42,769 --> 00:12:40,920
spacecraft from the water is a hazardous

308
00:12:44,750 --> 00:12:42,779
operation and so any other boats

309
00:12:46,670 --> 00:12:44,760
interfering in this process can increase

310
00:12:48,650 --> 00:12:46,680
risk to the astronauts in the capsule

311
00:12:50,389 --> 00:12:48,660
those teams working to recover them from

312
00:12:53,509 --> 00:12:50,399
the water and of course even the safety

313
00:12:56,210 --> 00:12:53,519

of any public voters so for the safety

314

00:12:58,610 --> 00:12:56,220

of the crew and yours we recommend

315

00:13:00,410 --> 00:12:58,620

tuning in here just sit back and watch

316

00:13:03,769 --> 00:13:00,420

we're going to give you the best views

317

00:13:05,990 --> 00:13:03,779

of our astronauts on their way home

318

00:13:08,569 --> 00:13:06,000

like I mentioned earlier this D orbit

319

00:13:11,329 --> 00:13:08,579

burn is the last time those four forward

320

00:13:14,269 --> 00:13:11,339

Draco thrusters will fire dragon

321

00:13:16,190 --> 00:13:14,279

endurance has not yet entered the

322

00:13:17,990 --> 00:13:16,200

Earth's atmosphere the steel burn is

323

00:13:20,090 --> 00:13:18,000

what will line the vehicle up and put it

324

00:13:23,030 --> 00:13:20,100

on its final trajectory to The Landing

325

00:13:24,710 --> 00:13:23,040

site off the coast of Tampa Florida

326

00:13:27,889 --> 00:13:24,720

as you can see on your screen there

327

00:13:30,710 --> 00:13:27,899

right now Nicole Josh koichi and Anna

328

00:13:33,650 --> 00:13:30,720

are using their screens to keep tabs on

329

00:13:35,449 --> 00:13:33,660

that burn duration the Draco Thruster

330

00:13:37,610 --> 00:13:35,459

firings which you can see lighting up on

331

00:13:39,710 --> 00:13:37,620

those displays in front of them the

332

00:13:42,470 --> 00:13:39,720

trajectory details like the entry angle

333

00:13:44,269 --> 00:13:42,480

capsule pair G and how much distance

334

00:13:47,150 --> 00:13:44,279

remaining until the orbit burn

335

00:13:49,850 --> 00:13:47,160

termination so in that Center screen you

336

00:13:52,129 --> 00:13:49,860

can actually see their trajectory their

337

00:13:54,829 --> 00:13:52,139

planned trajectory there dragon is

338

00:13:57,470 --> 00:13:54,839

flying itself so all of the crew all

339

00:13:59,629 --> 00:13:57,480

that the crew has to do is stay strapped

340

00:14:02,030 --> 00:13:59,639

in their seats and keep tabs on things

341

00:14:03,889 --> 00:14:02,040

which I know for me personally

342

00:14:05,990 --> 00:14:03,899

um I love looking out windows when I'm

343

00:14:07,910 --> 00:14:06,000

traveling especially in airplanes and so

344

00:14:09,290 --> 00:14:07,920

I imagine if I were flying this part

345

00:14:11,030 --> 00:14:09,300

would be really hard for me because I

346

00:14:12,769 --> 00:14:11,040

just want to get out of my seat and look

347

00:14:14,449 --> 00:14:12,779

out the window those last few space

348

00:14:15,769 --> 00:14:14,459

views I'm with you I'm always a window

349

00:14:18,110 --> 00:14:15,779

seat girl

350

00:14:20,569 --> 00:14:18,120

now with Nicole Josh koichi and Anna

351
00:14:22,430 --> 00:14:20,579
ready to deorbit and splash down back on

352
00:14:24,470 --> 00:14:22,440
planet Earth they'll be heading to one

353
00:14:26,930 --> 00:14:24,480
of seven targeted sites supported by

354
00:14:28,670 --> 00:14:26,940
SpaceX and NASA all of these sites are

355
00:14:30,889 --> 00:14:28,680
located off the coast of Florida either

356
00:14:31,850 --> 00:14:30,899
in the Gulf of Mexico or the Atlantic

357
00:14:33,590 --> 00:14:31,860
Ocean

358
00:14:35,690 --> 00:14:33,600
spreading the supported sites across

359
00:14:37,730 --> 00:14:35,700
multiple locations actually helps to

360
00:14:40,550 --> 00:14:37,740
maximize the return opportunities for

361
00:14:42,230 --> 00:14:40,560
this Mission and future Cruise lowering

362
00:14:44,329 --> 00:14:42,240
the chance that we'll have to wave off

363
00:14:46,790 --> 00:14:44,339

due to bad weather so pretty helpful

364

00:14:49,129 --> 00:14:46,800

yeah absolutely So Yesterday NASA and

365

00:14:51,410 --> 00:14:49,139

SpaceX together selected primary and

366

00:14:53,030 --> 00:14:51,420

Alternate Splashdown locations obviously

367

00:14:54,710 --> 00:14:53,040

our primary as we've discussed is off

368

00:14:57,350 --> 00:14:54,720

the coast of Tampa Florida and the

369

00:14:58,670 --> 00:14:57,360

alternate is Daytona this selection

370

00:15:00,530 --> 00:14:58,680

process works with a lot of different

371

00:15:02,509 --> 00:15:00,540

variables including the Space Station's

372

00:15:04,910 --> 00:15:02,519

orbital trajectory The Landing sites

373

00:15:06,769 --> 00:15:04,920

available and favorable weather as you

374

00:15:08,750 --> 00:15:06,779

mentioned of course how much free flight

375

00:15:10,490 --> 00:15:08,760

capability dragon has for the trip home

376

00:15:12,170 --> 00:15:10,500
and the sleep schedule for those

377

00:15:13,910 --> 00:15:12,180
returning crew members

378

00:15:16,910 --> 00:15:13,920
we'll start with calculating daily

379

00:15:19,009 --> 00:15:16,920
return options based off of the Space

380

00:15:21,290 --> 00:15:19,019
Station's current orbit and dragon's

381

00:15:24,230 --> 00:15:21,300
capabilities to maneuver and line up for

382

00:15:26,509 --> 00:15:24,240
re-entry the time from undock to landing

383

00:15:29,569 --> 00:15:26,519
at the primary site can vary from less

384

00:15:31,370 --> 00:15:29,579
than six hours to more than 39. getting

385

00:15:34,009 --> 00:15:31,380
home the quickest comes with some

386

00:15:36,350 --> 00:15:34,019
obvious benefits but we always have to

387

00:15:38,870 --> 00:15:36,360
make sure that the crew is properly

388

00:15:41,509 --> 00:15:38,880

rested for dynamic operations preventing

389

00:15:44,150 --> 00:15:41,519

us from scheduling 20 plus hour days for

390

00:15:45,889 --> 00:15:44,160

them trajectory and ballistics experts

391

00:15:47,689 --> 00:15:45,899

provide the daily opportunities that

392

00:15:49,970 --> 00:15:47,699

would line up dragon with the seven

393

00:15:52,250 --> 00:15:49,980

Landing zones and split them into what

394

00:15:54,170 --> 00:15:52,260

we call ascending and descending

395

00:15:56,389 --> 00:15:54,180

opportunities

396

00:15:58,490 --> 00:15:56,399

Dragon uses its Draco thrusters after

397

00:16:00,410 --> 00:15:58,500

leaving station to execute a series of

398

00:16:02,810 --> 00:16:00,420

altitude lowering Maneuvers and to line

399

00:16:04,069 --> 00:16:02,820

up with this selected primary site but

400

00:16:06,170 --> 00:16:04,079

it can also change to different

401
00:16:07,610 --> 00:16:06,180
alternate sites while in Free Flight if

402
00:16:09,530 --> 00:16:07,620
sudden weather moves in that we need to

403
00:16:11,449 --> 00:16:09,540
avoid that's something we're currently

404
00:16:13,730 --> 00:16:11,459
are constantly looking at is weather so

405
00:16:15,530 --> 00:16:13,740
we make the final call to proceed about

406
00:16:18,350 --> 00:16:15,540
two and a half hours before the crew

407
00:16:20,210 --> 00:16:18,360
undocks for the crew 5 return as always

408
00:16:22,189 --> 00:16:20,220
we look at a number of weather items

409
00:16:23,629 --> 00:16:22,199
some of those more obvious ones are no

410
00:16:26,030 --> 00:16:23,639
rain or chance of lightning in the

411
00:16:27,590 --> 00:16:26,040
recovery zone both for the safety of the

412
00:16:29,389 --> 00:16:27,600
crew in the capsule and the recovery

413
00:16:31,310 --> 00:16:29,399

teams on the water we're also looking

414

00:16:33,710 --> 00:16:31,320

for wind speeds less than 15 feet per

415

00:16:35,990 --> 00:16:33,720

second or about 10 miles per hour and

416

00:16:38,210 --> 00:16:36,000

relatively calm seas so we can safely

417

00:16:39,829 --> 00:16:38,220

execute recovery operations which

418

00:16:42,710 --> 00:16:39,839

includes Landing a helicopter on the

419

00:16:45,650 --> 00:16:42,720

recovery ship to fly Nicole Josh quiche

420

00:16:47,389 --> 00:16:45,660

and Anna back to Florida now I have

421

00:16:50,210 --> 00:16:47,399

heard the weather described in four

422

00:16:53,749 --> 00:16:50,220

different ways for this Tampa site I've

423

00:16:56,210 --> 00:16:53,759

heard go very go home run and stupendous

424

00:16:58,490 --> 00:16:56,220

so it sounds like they have a pretty

425

00:17:01,790 --> 00:16:58,500

nice landing site waiting for them today

426
00:17:05,449 --> 00:17:01,800
I think one time we also got super go oh

427
00:17:07,549 --> 00:17:05,459
wow that's another level

428
00:17:08,929 --> 00:17:07,559
so once Dragon began flying free

429
00:17:10,130 --> 00:17:08,939
yesterday there were a number of

430
00:17:12,530 --> 00:17:10,140
additional checkpoints to either

431
00:17:14,329 --> 00:17:12,540
proceeded toward the primary site head

432
00:17:16,610 --> 00:17:14,339
to the alternate or select a new Zone

433
00:17:18,650 --> 00:17:16,620
based on real-time weather data these

434
00:17:20,270 --> 00:17:18,660
checks happened all the way up and so we

435
00:17:22,069 --> 00:17:20,280
are in the final hours before the

436
00:17:24,289 --> 00:17:22,079
diorbit burn which started about six

437
00:17:26,510 --> 00:17:24,299
minutes ago that's this last burn in the

438
00:17:28,370 --> 00:17:26,520

trip home and it commits the Dragon

439

00:17:42,230 --> 00:17:28,380

capsule to re-entering the Earth's

440

00:17:46,909 --> 00:17:44,390

now before we go any further let's go

441

00:17:48,950 --> 00:17:46,919

ahead and take a minute to meet our crew

442

00:17:50,570 --> 00:17:48,960

first up is Nicole Mann on the left side

443

00:17:52,789 --> 00:17:50,580

of the screen there she's the California

444

00:17:54,770 --> 00:17:52,799

Native who holds a master of science in

445

00:17:56,870 --> 00:17:54,780

mechanical engineering and is a colonel

446

00:17:59,390 --> 00:17:56,880

in the Marine Corps she was an fa-18

447

00:18:01,370 --> 00:17:59,400

Hornet and Super Hornet test pilot and

448

00:18:03,830 --> 00:18:01,380

deployed twice aboard aircraft carriers

449

00:18:06,350 --> 00:18:03,840

in support of combat operations in Iraq

450

00:18:08,870 --> 00:18:06,360

and Afghanistan Nicole was selected by

451
00:18:10,970 --> 00:18:08,880
NASA in June 2013 and in the years that

452
00:18:12,710 --> 00:18:10,980
followed led the astronaut core in the

453
00:18:15,650 --> 00:18:12,720
development of Hardware in the Artemis

454
00:18:17,810 --> 00:18:15,660
program she is the dragon Commander for

455
00:18:19,370 --> 00:18:17,820
crew 5 which was her first space flight

456
00:18:21,230 --> 00:18:19,380
she's right there in the foreground of

457
00:18:23,150 --> 00:18:21,240
the shot monitoring the stew orbit burn

458
00:18:24,710 --> 00:18:23,160
and she is also the first Native

459
00:18:26,930 --> 00:18:24,720
American woman to stay on the

460
00:18:29,750 --> 00:18:26,940
International Space Station

461
00:18:32,090 --> 00:18:29,760
sitting next to Nicole is Josh cassida

462
00:18:34,490 --> 00:18:32,100
who grew up in Bear Lake Minnesota the

463
00:18:36,890 --> 00:18:34,500

physicist and U.S Navy test pilot flew

464

00:18:39,350 --> 00:18:36,900

23 combat missions and later became an

465

00:18:41,210 --> 00:18:39,360

instructor at the U.S naval test pilot

466

00:18:44,750 --> 00:18:41,220

school which is a common path Military

467

00:18:47,570 --> 00:18:44,760

Officers to take take to join NASA

468

00:18:49,850 --> 00:18:47,580

cassida is one of more than 100

469

00:18:52,549 --> 00:18:49,860

graduates who became astronauts going

470

00:18:54,950 --> 00:18:52,559

back to the Mercury program on Earth he

471

00:18:57,169 --> 00:18:54,960

served as capsule commander in mission

472

00:18:59,930 --> 00:18:57,179

control but for his first space flight

473

00:19:01,370 --> 00:18:59,940

on crew 5 he has served as pilot on

474

00:19:03,230 --> 00:19:01,380

Dragon

475

00:19:05,150 --> 00:19:03,240

in the role of mission Specialists you

476

00:19:07,850 --> 00:19:05,160

can't see him here he's to the left of

477

00:19:09,950 --> 00:19:07,860

uh Nicole that's Japanese astronaut koit

478

00:19:12,470 --> 00:19:09,960

iwakata koichi has a doctorate in

479

00:19:14,210 --> 00:19:12,480

aerospace engineering and in 1996 became

480

00:19:15,789 --> 00:19:14,220

the first Japanese Mission specialist

481

00:19:18,770 --> 00:19:15,799

aboard the Space Shuttle Endeavor for

482

00:19:21,470 --> 00:19:18,780

sts-72 in addition to his current

483

00:19:23,990 --> 00:19:21,480

Mission koichi flew four space shuttle

484

00:19:25,610 --> 00:19:24,000

missions a horse Cosmos soyuz and was on

485

00:19:27,950 --> 00:19:25,620

a long duration stay aboard the

486

00:19:30,169 --> 00:19:27,960

International Space Station and just on

487

00:19:33,289 --> 00:19:30,179

March 6th just a few days ago koichi

488

00:19:35,570 --> 00:19:33,299

reached his 500th day in space wow

489

00:19:37,370 --> 00:19:35,580

that's pretty incredible the second

490

00:19:40,070 --> 00:19:37,380

mission specialist is Russ Cosmos

491

00:19:43,370 --> 00:19:40,080

Cosmonaut Anna Anna kikuna she graduated

492

00:19:45,710 --> 00:19:43,380

from the this is a tough one Nova

493

00:19:49,549 --> 00:19:45,720

seabersk State Academy of water

494

00:19:51,890 --> 00:19:49,559

transport in 2006. in 2012 Anna

495

00:19:55,130 --> 00:19:51,900

officially became a candidate for the

496

00:19:57,169 --> 00:19:55,140

position of test Cosmonaut crew 5 was on

497

00:19:59,990 --> 00:19:57,179

his first flight into space as part of

498

00:20:02,150 --> 00:20:00,000

the resumption of integrated Crews on

499

00:20:04,789 --> 00:20:02,160

U.S Cruise spacecraft and in the soyuz

500

00:20:07,070 --> 00:20:04,799

with the Russian State space Corporation

501
00:20:09,289 --> 00:20:07,080
Russ Cosmos

502
00:20:12,049 --> 00:20:09,299
now we are still in that deorbit burn

503
00:20:14,090 --> 00:20:12,059
those crew members now about 42 minutes

504
00:20:17,690 --> 00:20:14,100
away from that targeted Splashdown time

505
00:20:19,250 --> 00:20:17,700
of 902 PM eastern time it looks like we

506
00:20:20,690 --> 00:20:19,260
have about two minutes left maybe a

507
00:20:23,210 --> 00:20:20,700
minute and a half in that the orbit bird

508
00:20:26,210 --> 00:20:23,220
but things are going well so far all of

509
00:20:28,250 --> 00:20:26,220
those four Draco engines firing for the

510
00:20:33,409 --> 00:20:28,260
last time before closing that nose cone

511
00:20:37,909 --> 00:20:35,270
they're on your screens you can see the

512
00:20:40,370 --> 00:20:37,919
crew is continuing to monitor dragon's

513
00:20:43,610 --> 00:20:40,380

progress in this deorbit burn

514

00:20:46,029 --> 00:20:43,620

we have about a minute and a half one

515

00:20:50,510 --> 00:20:46,039

minute and 31 seconds to be exact

516

00:20:55,669 --> 00:20:52,250

as you can see with those displays

517

00:20:58,310 --> 00:20:55,679

there's a small set of physical buttons

518

00:21:00,350 --> 00:20:58,320

that the crew can use for emergency

519

00:21:02,210 --> 00:21:00,360

situations

520

00:21:04,070 --> 00:21:02,220

um and then the displays our touch

521

00:21:06,529 --> 00:21:04,080

screen which has more features that they

522

00:21:08,690 --> 00:21:06,539

can use in Flight in addition to the

523

00:21:12,230 --> 00:21:08,700

tablets that are on their legs you can

524

00:21:14,930 --> 00:21:12,240

see Nicole's there on her left leg

525

00:21:17,270 --> 00:21:14,940

we can also see a good shot of the

526

00:21:20,570 --> 00:21:17,280

control panel for the seats themselves

527

00:21:23,270 --> 00:21:20,580

that's where the mic volume and the push

528

00:21:25,070 --> 00:21:23,280

to talk button is also located for the

529

00:21:27,590 --> 00:21:25,080

crew to use and that's I believe that's

530

00:21:28,789 --> 00:21:27,600

also where the crew cabin light button

531

00:21:30,770 --> 00:21:28,799

is located

532

00:21:32,450 --> 00:21:30,780

so just like an airplane everybody has

533

00:21:37,010 --> 00:21:32,460

their own personal window gives me

534

00:21:38,990 --> 00:21:37,020

personal like reading light yeah exactly

535

00:21:41,270 --> 00:21:39,000

there's also USB ports in the Dragon

536

00:21:43,250 --> 00:21:41,280

capsule as well that's convenient yeah

537

00:21:44,390 --> 00:21:43,260

not on the chairs it's uh kind of like

538

00:21:46,190 --> 00:21:44,400

above their head so they can't really

539

00:21:48,110 --> 00:21:46,200

reach them while in flight but certainly

540

00:21:49,490 --> 00:21:48,120

useful during the opportunities where

541

00:21:51,110 --> 00:21:49,500

they don't have to be in their seats and

542

00:21:52,370 --> 00:21:51,120

can charge up those tablets that they

543

00:21:54,649 --> 00:21:52,380

use

544

00:21:56,930 --> 00:21:54,659

now continuing to monitor again we are

545

00:21:59,390 --> 00:21:56,940

in the deorbit burn and uh should be

546

00:22:01,549 --> 00:21:59,400

wrapping up here very shortly crew

547

00:22:04,610 --> 00:22:01,559

members just monitoring as this is a

548

00:22:07,250 --> 00:22:04,620

completely autonomous flight

549

00:22:21,169 --> 00:22:07,260

10 seconds remaining in this de orbit

550

00:22:26,630 --> 00:22:23,990

that to open burn is the orbit burn

551
00:22:30,350 --> 00:22:26,640
complete performance nominal nose cone

552
00:22:34,909 --> 00:22:32,630
Dragon copy

553
00:22:36,649 --> 00:22:34,919
just what we wanted to hear the orbit

554
00:22:39,590 --> 00:22:36,659
bird is complete nominal is always the

555
00:22:41,570 --> 00:22:39,600
word we're looking for and so with that

556
00:22:43,070 --> 00:22:41,580
complete next up is closure of the nose

557
00:22:44,810 --> 00:22:43,080
cone since we won't be using those Draco

558
00:22:46,789 --> 00:22:44,820
thrusters anymore that's right that nose

559
00:22:50,210 --> 00:22:46,799
cone is what protects those Draco

560
00:22:52,549 --> 00:22:50,220
thrusters as well as that forward hatch

561
00:22:54,529 --> 00:22:52,559
which is the hatch that the crew of

562
00:22:57,649 --> 00:22:54,539
course used to dock to the space station

563
00:22:59,570 --> 00:22:57,659

and uh get in and out of dragon while it

564

00:23:01,370 --> 00:22:59,580

was docked on station

565

00:23:03,289 --> 00:23:01,380

um that side hatch is what they will be

566

00:23:04,610 --> 00:23:03,299

using the side hatch which is on the

567

00:23:06,470 --> 00:23:04,620

side of dragon is what they will be

568

00:23:09,409 --> 00:23:06,480

using to get out of the capsule after

569

00:23:12,350 --> 00:23:09,419

Splashdown but not that forward hatch

570

00:23:14,390 --> 00:23:12,360

which is what is being covered up now as

571

00:23:19,130 --> 00:23:14,400

we are what will be covered up as we

572

00:23:29,990 --> 00:23:21,590

wow there we can see a live view of that

573

00:23:34,669 --> 00:23:32,570

so in the

574

00:23:36,770 --> 00:23:34,679

dragon is currently inhibiting those

575

00:23:38,330 --> 00:23:36,780

forward bulkhead Draco thrusters that we

576
00:23:40,490 --> 00:23:38,340
just used to complete the deorbit burn

577
00:23:42,470 --> 00:23:40,500
those are inhibited now I should say

578
00:23:44,990 --> 00:23:42,480
meaning that it was safe to latch the

579
00:23:47,630 --> 00:23:45,000
nose cone shut and the vehicles

580
00:23:49,730 --> 00:23:47,640
initiated the nitrox suit Purge this

581
00:23:50,930 --> 00:23:49,740
will help keep Nicole Josh koichi and

582
00:23:54,590 --> 00:23:50,940
Anna cool and comfortable during

583
00:23:56,330 --> 00:23:54,600
re-entry which is coming up in about 20

584
00:23:58,370 --> 00:23:56,340
minutes

585
00:24:00,169 --> 00:23:58,380
at this point like we saw uh the nose

586
00:24:02,690 --> 00:24:00,179
cone is closing protecting the forward

587
00:24:04,370 --> 00:24:02,700
hatch for re-entry so Nicole Josh koichi

588
00:24:05,990 --> 00:24:04,380

and Anna are using their screens to

589

00:24:08,390 --> 00:24:06,000

continue monitoring the Locking of the

590

00:24:09,890 --> 00:24:08,400

nose cone which is done by a set of

591

00:24:11,390 --> 00:24:09,900

hooks

592

00:24:13,970 --> 00:24:11,400

that's exactly right now we have a live

593

00:24:16,070 --> 00:24:13,980

view there of Mission Control Hawthorne

594

00:24:17,450 --> 00:24:16,080

actually located just to the side of

595

00:24:19,909 --> 00:24:17,460

Leah and I

596

00:24:22,070 --> 00:24:19,919

um that is where the calls are coming

597

00:24:25,190 --> 00:24:22,080

from that we hear to the crew coming

598

00:24:27,169 --> 00:24:25,200

from SpaceX core Mike Blasco

599

00:24:29,990 --> 00:24:27,179

another view there of that nose cone

600

00:24:35,750 --> 00:24:32,029

it was about another minute and 14

601
00:24:37,610 --> 00:24:35,760
seconds remaining in the nose Cone close

602
00:24:41,510 --> 00:24:37,620
um but yeah those those calls that we

603
00:24:43,730 --> 00:24:41,520
hear to the crew and basically

604
00:24:46,190 --> 00:24:43,740
communicating status of what's happening

605
00:24:47,810 --> 00:24:46,200
or what has completed that comes from

606
00:24:52,669 --> 00:24:47,820
that room that you see there on your

607
00:24:58,490 --> 00:24:54,710
we're standing by for the confirmation

608
00:25:01,310 --> 00:24:58,500
of nose cone closure we are now about 18

609
00:25:03,289 --> 00:25:01,320
hours since on dock yesterday so we've

610
00:25:06,049 --> 00:25:03,299
mentioned that the crew has had time to

611
00:25:08,930 --> 00:25:06,059
rest relax maybe eat a little bit take a

612
00:25:10,669 --> 00:25:08,940
nap but right now are monitoring the

613
00:25:13,850 --> 00:25:10,679

continuation of nose cone closure just

614

00:25:17,390 --> 00:25:13,860

waiting on that call out to the crew

615

00:25:20,330 --> 00:25:17,400

about 30 seconds remaining now to nose

616

00:25:22,850 --> 00:25:20,340

Cone close as we said before since we

617

00:25:24,590 --> 00:25:22,860

won't be using the four forward Draco

618

00:25:26,810 --> 00:25:24,600

thrusters

619

00:25:29,870 --> 00:25:26,820

um and obviously the hatch is sealed and

620

00:25:32,510 --> 00:25:29,880

shut we are able to close that nose cone

621

00:25:35,930 --> 00:25:32,520

um it's an important step because

622

00:25:38,029 --> 00:25:35,940

ultimately this is the now that the

623

00:25:40,669 --> 00:25:38,039

trunk has been separated this is the

624

00:25:45,409 --> 00:25:40,679

last major physical change that Dragon

625

00:25:49,970 --> 00:25:47,630

dragon that the crew 5 crew members are

626
00:25:52,970 --> 00:25:49,980
flying on stay is named endurance it was

627
00:25:55,909 --> 00:25:52,980
dubbed that by the crew 3 crew in honor

628
00:25:58,250 --> 00:25:55,919
of the endurance shown by the NASA and

629
00:25:59,810 --> 00:25:58,260
SpaceX teams as they were building and

630
00:26:01,430 --> 00:25:59,820
training or building the spacecraft and

631
00:26:03,649 --> 00:26:01,440
training the crew through the pandemic

632
00:26:05,690 --> 00:26:03,659
so I thought that was a really nice way

633
00:26:06,409 --> 00:26:05,700
to honor both the teams very fitting for

634
00:26:09,049 --> 00:26:06,419
sure

635
00:26:11,510 --> 00:26:09,059
so we're standing by for the call out to

636
00:26:16,730 --> 00:26:11,520
confirm that the nose cone has been

637
00:26:21,830 --> 00:26:18,710
and this is the last major physical

638
00:26:24,130 --> 00:26:21,840

change that Dragon undergoes prior to

639

00:26:28,490 --> 00:26:24,140

that deorbit or somebody prior to

640

00:26:32,510 --> 00:26:30,830

they've already completed the Dew orbit

641

00:26:35,870 --> 00:26:32,520

burn itself yes

642

00:26:39,289 --> 00:26:35,880

um so this nose cone closure is an

643

00:26:41,570 --> 00:26:39,299

important uh one of the last steps prior

644

00:26:44,690 --> 00:26:41,580

to that re-entry that diorbit burn

645

00:26:47,390 --> 00:26:44,700

really commits us to uh returning to

646

00:26:49,029 --> 00:26:47,400

Earth there's not really any waving off

647

00:26:51,950 --> 00:26:49,039

after that happens

648

00:26:53,930 --> 00:26:51,960

and as we mentioned before we are

649

00:26:56,269 --> 00:26:53,940

targeting a Splashdown off the coast of

650

00:26:59,090 --> 00:26:56,279

Tampa Florida

651
00:27:01,190 --> 00:26:59,100
now look here at both teams monitoring

652
00:27:03,669 --> 00:27:01,200
the mission over on the left is Mission

653
00:27:06,169 --> 00:27:03,679
Control in Hawthorne and on the right is

654
00:27:09,070 --> 00:27:06,179
Mission Control at nasus Johnson Space

655
00:27:11,930 --> 00:27:09,080
Center in Houston Texas home sweet home

656
00:27:13,370 --> 00:27:11,940
they were in joint operations wild

657
00:27:16,010 --> 00:27:13,380
Dragon was docked to the International

658
00:27:18,529 --> 00:27:16,020
Space Station and until the spacecraft

659
00:27:22,909 --> 00:27:18,539
exited the approach ellipsoid so now the

660
00:27:24,890 --> 00:27:22,919
teams are continuing to watch the watch

661
00:27:26,870 --> 00:27:24,900
the re-entry of the spacecraft and

662
00:27:29,870 --> 00:27:26,880
prepare to welcome the astronauts home

663
00:27:32,630 --> 00:27:29,880

but in a monitoring mode now since we

664

00:27:37,190 --> 00:27:32,640

are obviously quite a ways away from the

665

00:27:42,049 --> 00:27:38,870

and as for the crew on the International

666

00:27:43,370 --> 00:27:42,059

Space Station they are in a sleep period

667

00:27:45,409 --> 00:27:43,380

right now but they do have the

668

00:27:47,750 --> 00:27:45,419

opportunity to watch these broadcasts

669

00:27:49,070 --> 00:27:47,760

and watch their friends arrive back on

670

00:27:50,810 --> 00:27:49,080

Earth so

671

00:27:52,490 --> 00:27:50,820

hopefully if they're watching they still

672

00:27:57,049 --> 00:27:52,500

take some time to get a little shut eye

673

00:28:01,549 --> 00:27:59,690

at this point in time the nose cone is

674

00:28:03,710 --> 00:28:01,559

closed we're just waiting for that to be

675

00:28:04,549 --> 00:28:03,720

called out to the crew

676

00:28:08,029 --> 00:28:04,559

um

677

00:28:11,870 --> 00:28:08,039

from the SpaceX core next up will be to

678

00:28:13,850 --> 00:28:11,880

initiate that nitrox suit Purge

679

00:28:16,130 --> 00:28:13,860

again that just helps to keep the crew

680

00:28:23,390 --> 00:28:16,140

super comfortable during that re-entry

681

00:28:30,010 --> 00:28:25,930

and then coming up a little bit later

682

00:28:33,529 --> 00:28:30,020

tonight around 5 50.

683

00:28:36,409 --> 00:28:33,539

550 PM Pacific time that's when the

684

00:28:38,330 --> 00:28:36,419

entry of the spacecraft will begin and

685

00:28:40,310 --> 00:28:38,340

during that time we anticipate to lose

686

00:28:43,310 --> 00:28:40,320

communication with the spacecraft as

687

00:28:45,490 --> 00:28:43,320

plasma is building up around it it is

688

00:28:48,769 --> 00:28:45,500

traveling through the atmosphere

689

00:28:50,810 --> 00:28:48,779

eventually we will regain that signal

690

00:28:52,610 --> 00:28:50,820

and communication with the crew members

691

00:28:55,490 --> 00:28:52,620

but of course Dragon knows exactly what

692

00:28:58,549 --> 00:28:55,500

it's doing that entire way home they are

693

00:29:00,649 --> 00:28:58,559

just monitoring and getting closer and

694

00:29:03,950 --> 00:29:00,659

closer to Splashdown again targeting

695

00:29:06,049 --> 00:29:03,960

Splashdown for 902 PM Eastern Time 602

696

00:29:16,070 --> 00:29:06,059

PM Pacific off the coast of Tampa

697

00:29:20,630 --> 00:29:18,350

nose cone closure continues it looks

698

00:29:22,909 --> 00:29:20,640

like the first set of hooks is closed

699

00:29:42,470 --> 00:29:22,919

and the second set is closing as we

700

00:29:46,549 --> 00:29:44,990

for our four crew members on crew five

701

00:29:48,950 --> 00:29:46,559

for three of them this was their first

702

00:29:51,370 --> 00:29:48,960

space flight so Nicole Mann Josh cassida

703

00:29:54,649 --> 00:29:51,380

and Anna kikuna are all coming home with

704

00:29:58,549 --> 00:29:54,659

157 days in space as we mentioned

705

00:30:01,070 --> 00:29:58,559

earlier koichiwakata has this is his

706

00:30:11,149 --> 00:30:01,080

fifth space flight so he is coming home

707

00:30:15,529 --> 00:30:13,370

and in following along with the

708

00:30:16,490 --> 00:30:15,539

procedures that the crew are stepping

709

00:30:17,090 --> 00:30:16,500

through

710

00:30:23,330 --> 00:30:17,100

um

711

00:30:23,340 --> 00:30:30,649

Dragon copy

712

00:30:36,710 --> 00:30:33,769

and there is that confirmation of nose

713

00:30:39,590 --> 00:30:36,720

cone uh closure that we were standing by

714

00:30:42,590 --> 00:30:39,600

for now as we begin the second half of

715

00:30:45,470 --> 00:30:42,600

Entry dragon is now beginning to inject

716

00:30:48,110 --> 00:30:45,480

that cooled nitrox or nitrogen oxygen

717

00:30:51,049 --> 00:30:48,120

mixture into the air being delivered to

718

00:30:53,570 --> 00:30:51,059

the suits worn by Nicole Josh koichi and

719

00:30:55,310 --> 00:30:53,580

Anna again that's what will allow the

720

00:30:57,769 --> 00:30:55,320

crew to remain super comfortable while

721

00:31:00,049 --> 00:30:57,779

the external temperatures reach 3 500

722

00:31:02,690 --> 00:31:00,059

degrees Fahrenheit so a little warm on

723

00:31:05,210 --> 00:31:02,700

the outside that heat shield is pointing

724

00:31:07,430 --> 00:31:05,220

forward leading the capsule to The

725

00:31:09,889 --> 00:31:07,440

Landing site and speaking of the heat

726

00:31:13,070 --> 00:31:09,899

shield dragon's primary heat shield is

727

00:31:16,310 --> 00:31:13,080

comprised of Pika 3.0 which stands for

728

00:31:19,549 --> 00:31:16,320

phenolic impregnated carbon ablator the

729

00:31:21,529 --> 00:31:19,559

first generation Pico was actually first

730

00:31:23,389 --> 00:31:21,539

developed by NASA for studying and

731

00:31:25,250 --> 00:31:23,399

sampling comments within our solar

732

00:31:27,950 --> 00:31:25,260

system yeah so SpaceX partnered with

733

00:31:29,810 --> 00:31:27,960

NASA to develop Pika X which was the

734

00:31:31,970 --> 00:31:29,820

second generation product used on all

735

00:31:33,889 --> 00:31:31,980

Dragon wine commercial resupply missions

736

00:31:37,669 --> 00:31:33,899

that successfully resupply the station

737

00:31:39,769 --> 00:31:37,679

on over 20 or on 20 missions Pika 3.0

738

00:31:42,590 --> 00:31:39,779

was developed specifically for use on

739

00:31:44,029 --> 00:31:42,600

Dragon 2 crew and cargo spacecraft with

740

00:31:45,529 --> 00:31:44,039

enhanced structural and thermal

741

00:31:47,990 --> 00:31:45,539

properties that optimize the heat shield

742

00:31:50,510 --> 00:31:48,000

and drove down the cost and mass the

743

00:31:53,570 --> 00:31:50,520

remainder of Dragon capsule is composed

744

00:31:56,450 --> 00:31:53,580

primarily of a SpaceX proprietary up

745

00:31:58,490 --> 00:31:56,460

blade of material it's another class of

746

00:32:00,889 --> 00:31:58,500

thermal protection which is lighter

747

00:32:03,049 --> 00:32:00,899

weight versus Pica and protects the

748

00:32:05,450 --> 00:32:03,059

underlying composite structure during

749

00:32:07,909 --> 00:32:05,460

that re-entry to ensure that the

750

00:32:09,649 --> 00:32:07,919

structural capabilities are maintained

751
00:32:11,690 --> 00:32:09,659
so while Dragon will experience

752
00:32:13,669 --> 00:32:11,700
temperatures well over 3000 degrees

753
00:32:15,649 --> 00:32:13,679
Fahrenheit during Peak re-entry

754
00:32:17,750 --> 00:32:15,659
conditions the characteristics of the

755
00:32:20,389 --> 00:32:17,760
thermal Protection Systems also referred

756
00:32:22,430 --> 00:32:20,399
to as TPS coupled with the environmental

757
00:32:24,649 --> 00:32:22,440
Cooling and life support system which we

758
00:32:26,510 --> 00:32:24,659
refer to as Eclipse that's in the

759
00:32:28,549 --> 00:32:26,520
pressurized interior that will ensure

760
00:32:30,289 --> 00:32:28,559
that Nicole joshuaichi and Anna stay

761
00:32:35,210 --> 00:32:30,299
cool and comfortable during All Phases

762
00:32:40,130 --> 00:32:37,490
after crew Dragon endurance has

763
00:32:42,350 --> 00:32:40,140

re-entered the Earth's atmosphere a

764

00:32:45,110 --> 00:32:42,360

series of parachutes will deploy to slow

765

00:32:47,330 --> 00:32:45,120

the crew's descent the first will be two

766

00:32:50,389 --> 00:32:47,340

drogue parachutes followed by the four

767

00:32:52,909 --> 00:32:50,399

main shoots two guy drag Dragon to its

768

00:32:58,430 --> 00:32:52,919

first contact with Earth since launching

769

00:33:03,710 --> 00:33:00,950

dragon wall automatically deployed these

770

00:33:05,389 --> 00:33:03,720

parachutes when different pressure and

771

00:33:08,269 --> 00:33:05,399

positioning sensors on the capsule

772

00:33:11,149 --> 00:33:08,279

detect that they are at the right speed

773

00:33:13,970 --> 00:33:11,159

and at altitude

774

00:33:16,909 --> 00:33:13,980

at the vehicle velocity at the drug

775

00:33:19,490 --> 00:33:16,919

deploy parachute timing is about 350

776
00:33:22,250 --> 00:33:19,500
miles per hour so they deployed about 18

777
00:33:23,930 --> 00:33:22,260
000 feet now the vehicle velocity when

778
00:33:26,450 --> 00:33:23,940
the main parachutes deploy is at

779
00:33:29,210 --> 00:33:26,460
approximately 119 miles per hour they'll

780
00:33:31,730 --> 00:33:29,220
deploy about 6 500 feet

781
00:33:34,310 --> 00:33:31,740
and when we have our water splash down

782
00:33:36,830 --> 00:33:34,320
the spacecraft is traveling a cool and

783
00:33:39,590 --> 00:33:36,840
comfortable approximately 16 miles per

784
00:33:41,450 --> 00:33:39,600
hour so the highest G Loop G load we

785
00:33:45,889 --> 00:33:41,460
expect the crew to experience during

786
00:33:51,649 --> 00:33:48,470
so again with nose cone closure we don't

787
00:33:54,350 --> 00:33:51,659
have a whole lot of visual changes like

788
00:33:56,029 --> 00:33:54,360

you mentioned that we will see and our

789

00:33:57,529 --> 00:33:56,039

crew members are already in their suits

790

00:33:58,850 --> 00:33:57,539

and in their seats as we had a preview

791

00:34:01,789 --> 00:33:58,860

of earlier

792

00:34:04,730 --> 00:34:01,799

so coming up next uh will be our

793

00:34:07,430 --> 00:34:04,740

anticipated loss of signal around 5 48

794

00:34:09,589 --> 00:34:07,440

PM Pacific time the crew just got an

795

00:34:11,629 --> 00:34:09,599

update on that from core here in

796

00:34:13,550 --> 00:34:11,639

Hawthorne before we started the

797

00:34:15,589 --> 00:34:13,560

broadcast so again when we're in that

798

00:34:17,990 --> 00:34:15,599

entry period and plasma is building up

799

00:34:20,450 --> 00:34:18,000

around the spacecraft it makes it hard

800

00:34:21,889 --> 00:34:20,460

for us to communicate back and forth so

801
00:34:24,409 --> 00:34:21,899
during that time we won't have

802
00:34:26,990 --> 00:34:24,419
communication with the astronauts or the

803
00:34:28,849 --> 00:34:27,000
spacecraft itself however again dragon

804
00:34:31,369 --> 00:34:28,859
is fully autonomous and continues

805
00:34:33,349 --> 00:34:31,379
guiding those crew members to our

806
00:34:36,290 --> 00:34:33,359
Splashdown site in Tampa that's right

807
00:34:38,210 --> 00:34:36,300
that expected loss of signal or loss as

808
00:34:41,169 --> 00:34:38,220
you'll hear it called out is coming up

809
00:34:44,570 --> 00:34:41,179
in 14 minutes on the dot actually

810
00:34:47,149 --> 00:34:44,580
and it's something that happens every

811
00:34:50,210 --> 00:34:47,159
time one of the crew Dragon capsules

812
00:34:54,230 --> 00:34:50,220
returns to earth it lasts only a few

813
00:34:56,210 --> 00:34:54,240

minutes but it's something that we will

814

00:34:58,849 --> 00:34:56,220

hopefully at that time be able to have

815

00:35:01,070 --> 00:34:58,859

some views of dragon as it is

816

00:35:05,690 --> 00:35:01,080

entering the atmosphere but of course

817

00:35:07,550 --> 00:35:05,700

after that that entry point like we

818

00:35:09,589 --> 00:35:07,560

mentioned before those parachutes will

819

00:35:12,349 --> 00:35:09,599

deploy shortly thereafter starting with

820

00:35:14,810 --> 00:35:12,359

those two drove parachutes followed by

821

00:35:17,150 --> 00:35:14,820

the main parachutes which are those

822

00:35:20,030 --> 00:35:17,160

beautiful orange and white big

823

00:35:23,690 --> 00:35:20,040

parachutes that we just love to see

824

00:35:26,030 --> 00:35:23,700

um during this during that re-entry

825

00:35:28,730 --> 00:35:26,040

and of course the recovery ship tonight

826

00:35:31,190 --> 00:35:28,740

that will be recovering the crew from

827

00:35:34,130 --> 00:35:31,200

the waters off the coast of Tampa is

828

00:35:37,609 --> 00:35:34,140

Shannon named in honor of Shannon Walker

829

00:35:40,069 --> 00:35:37,619

who flew on a crew One mission uh back

830

00:35:42,530 --> 00:35:40,079

in 2020. I can't believe it's been three

831

00:35:44,690 --> 00:35:42,540

and a half years now

832

00:35:47,150 --> 00:35:44,700

so at this point in time as we mentioned

833

00:35:51,770 --> 00:35:47,160

before we are a few minutes away from

834

00:35:54,410 --> 00:35:51,780

the next major Milestones about uh 12 uh

835

00:35:57,470 --> 00:35:54,420

about 12 minutes and 45 seconds from

836

00:35:59,990 --> 00:35:57,480

that anticipated loss we are taking your

837

00:36:03,490 --> 00:36:00,000

social questions from social media if

838

00:36:06,650 --> 00:36:03,500

you have one be sure to use the hashtag

839

00:36:08,930 --> 00:36:06,660

asknasa and we'll try to get to them as

840

00:36:10,870 --> 00:36:08,940

we can sometimes especially after

841

00:36:13,069 --> 00:36:10,880

Splashdown there's some waiting periods

842

00:36:15,950 --> 00:36:13,079

so we'd love to take some questions we

843

00:36:18,770 --> 00:36:15,960

have a couple already so let's check out

844

00:36:21,829 --> 00:36:18,780

what that first one is this one comes to

845

00:36:24,290 --> 00:36:21,839

us from on Chari

846

00:36:26,810 --> 00:36:24,300

um what at what number is the space

847

00:36:28,910 --> 00:36:26,820

station at capacity are there

848

00:36:30,290 --> 00:36:28,920

interactions between the crew from

849

00:36:31,490 --> 00:36:30,300

different countries that's a great

850

00:36:33,349 --> 00:36:31,500

question

851

00:36:35,390 --> 00:36:33,359

um I think the fact that it's called the

852

00:36:38,089 --> 00:36:35,400

International Space Station

853

00:36:39,829 --> 00:36:38,099

um is is definitely indicative of those

854

00:36:42,109 --> 00:36:39,839

interactions that take place among the

855

00:36:44,450 --> 00:36:42,119

crew while they are on station I

856

00:36:46,310 --> 00:36:44,460

personally love seeing photos of the

857

00:36:49,550 --> 00:36:46,320

crew whenever they're sharing meals

858

00:36:51,910 --> 00:36:49,560

together if if they can I've seen photos

859

00:36:54,109 --> 00:36:51,920

where they like to bring up food from

860

00:36:56,089 --> 00:36:54,119

that is representative of their country

861

00:36:58,190 --> 00:36:56,099

or their culture and share it with the

862

00:36:59,870 --> 00:36:58,200

other crew members on board which is

863

00:37:01,069 --> 00:36:59,880

something I love seeing the crew do yeah

864

00:37:02,810 --> 00:37:01,079

absolutely and of course different

865

00:37:05,210 --> 00:37:02,820

cultures have different holidays as well

866

00:37:06,650 --> 00:37:05,220

so sometimes they share those sorts of

867

00:37:08,870 --> 00:37:06,660

traditions and it's definitely the

868

00:37:10,550 --> 00:37:08,880

International Space Station sometimes

869

00:37:14,109 --> 00:37:10,560

they work together on projects or even

870

00:37:16,730 --> 00:37:14,119

on Space walks our jaxa astronaut

871

00:37:18,770 --> 00:37:16,740

koichiwakata went out on I believe two

872

00:37:20,210 --> 00:37:18,780

spacewalks with Nicole Mann our NASA

873

00:37:21,890 --> 00:37:20,220

astronaut during their stay at the

874

00:37:24,050 --> 00:37:21,900

International Space Station so a lot of

875

00:37:25,250 --> 00:37:24,060

working together while they are on board

876

00:37:26,690 --> 00:37:25,260

and of course there's a lot of work

877

00:37:29,150 --> 00:37:26,700

going on on the ground between our

878

00:37:30,349 --> 00:37:29,160

partner countries as we prepare for

879

00:37:33,530 --> 00:37:30,359

these missions

880

00:37:34,490 --> 00:37:33,540

and the question also was a limit to the

881

00:37:37,370 --> 00:37:34,500

number of people on the International

882

00:37:39,349 --> 00:37:37,380

Space Station so for the past week we

883

00:37:41,270 --> 00:37:39,359

had 11 people on the space station

884

00:37:43,010 --> 00:37:41,280

that's cozy it does it sounds a little

885

00:37:46,430 --> 00:37:43,020

cozy but the space station is also

886

00:37:49,329 --> 00:37:46,440

pretty big and twice it has housed 13

887

00:37:52,790 --> 00:37:49,339

people so I don't know that there is a

888

00:37:54,770 --> 00:37:52,800

Max limit that we have established or

889

00:37:57,290 --> 00:37:54,780

determined at this time but we've seen

890

00:38:00,589 --> 00:37:57,300

13 a couple of times before and we just

891

00:38:03,470 --> 00:38:00,599

wrapped up a Full House of 11.

892

00:38:06,410 --> 00:38:03,480

take a look at another one coming us

893

00:38:08,870 --> 00:38:06,420

coming to us from Jiu Jitsu Panda I love

894

00:38:11,210 --> 00:38:08,880

that can the astronauts work out or

895

00:38:14,030 --> 00:38:11,220

exercise on the space station thank you

896

00:38:16,849 --> 00:38:14,040

ahead of time absolutely in fact they

897

00:38:18,829 --> 00:38:16,859

have to right it's it's required uh in

898

00:38:21,890 --> 00:38:18,839

order to maintain their health maintain

899

00:38:24,650 --> 00:38:21,900

their bone density which ultimately you

900

00:38:26,870 --> 00:38:24,660

know keeps them working efficiently

901
00:38:29,329 --> 00:38:26,880
while they're while they are on station

902
00:38:32,630 --> 00:38:29,339
but it's also part of the the study of

903
00:38:34,430 --> 00:38:32,640
how microgravity impacts the human body

904
00:38:36,950 --> 00:38:34,440
um in terms of if you do with this

905
00:38:37,849 --> 00:38:36,960
exercise what is the result are you

906
00:38:38,450 --> 00:38:37,859
still

907
00:38:40,130 --> 00:38:38,460
um

908
00:38:42,290 --> 00:38:40,140
maintaining the level of Health

909
00:38:44,810 --> 00:38:42,300
necessary yeah absolutely and they have

910
00:38:47,089 --> 00:38:44,820
a few different exercise machines on the

911
00:38:49,069 --> 00:38:47,099
space station so I was talking with

912
00:38:51,589 --> 00:38:49,079
Shiva there's a treadmill that you have

913
00:38:53,750 --> 00:38:51,599

to kind of wear a belt and it's hooked

914

00:38:55,130 --> 00:38:53,760

to the the treadmill itself so that as

915

00:38:57,410 --> 00:38:55,140

you're running you're not kind of

916

00:39:00,290 --> 00:38:57,420

floating off with every step you take uh

917

00:39:02,089 --> 00:39:00,300

there's also a stationary bike and then

918

00:39:05,390 --> 00:39:02,099

there's also the advanced resistive

919

00:39:08,569 --> 00:39:05,400

exercise device we call it a red it can

920

00:39:11,150 --> 00:39:08,579

be modified so that you can use it to do

921

00:39:13,550 --> 00:39:11,160

arm workouts leg workouts anything from

922

00:39:16,250 --> 00:39:13,560

bicep curls to squats even even ab

923

00:39:19,010 --> 00:39:16,260

workouts so they've done a great job at

924

00:39:21,770 --> 00:39:19,020

providing options up there and the crew

925

00:39:23,450 --> 00:39:21,780

members are assigned to each one so they

926

00:39:25,010 --> 00:39:23,460

don't get to choose a favorite and only

927

00:39:26,150 --> 00:39:25,020

get on the treadmill every day they have

928

00:39:27,829 --> 00:39:26,160

to make sure that they're also

929

00:39:29,810 --> 00:39:27,839

maintaining their muscle mass and their

930

00:39:31,310 --> 00:39:29,820

bone density with a little bit of weight

931

00:39:32,630 --> 00:39:31,320

lifting as well

932

00:39:34,609 --> 00:39:32,640

um one thing that I never took into

933

00:39:39,190 --> 00:39:34,619

consideration until I heard it called

934

00:39:43,250 --> 00:39:39,200

out during the cruise six docking period

935

00:39:45,890 --> 00:39:43,260

was basically the Capcom at Mission

936

00:39:49,190 --> 00:39:45,900

Control in Houston I think was talking

937

00:39:50,750 --> 00:39:49,200

to Josh cassida I can't quite remember

938

00:39:53,150 --> 00:39:50,760

but it was speaking to one of the

939

00:39:56,210 --> 00:39:53,160

astronauts on station and basically told

940

00:40:00,109 --> 00:39:56,220

them hey you can't do your workout as

941

00:40:04,069 --> 00:40:00,119

scheduled because we're about to dock uh

942

00:40:06,829 --> 00:40:04,079

crew six and just the vibrations created

943

00:40:10,370 --> 00:40:06,839

from the exercise in the space station

944

00:40:13,010 --> 00:40:10,380

even though it is a really big floating

945

00:40:16,190 --> 00:40:13,020

laboratory it's not floating orbiting

946

00:40:18,890 --> 00:40:16,200

um it was I never really thought that it

947

00:40:20,930 --> 00:40:18,900

had that much of an impact to other

948

00:40:23,329 --> 00:40:20,940

things until we heard that call out

949

00:40:24,589 --> 00:40:23,339

during that docking where we were right

950

00:40:26,390 --> 00:40:24,599

about to dock and it was basically like

951
00:40:28,609 --> 00:40:26,400
hey hold off on your scheduled exercise

952
00:40:30,589 --> 00:40:28,619
for right now right right we heard that

953
00:40:31,970 --> 00:40:30,599
yesterday as well before undock so I

954
00:40:33,589 --> 00:40:31,980
just want to mitigate any of those

955
00:40:34,849 --> 00:40:33,599
things that might impart loads on the

956
00:40:37,310 --> 00:40:34,859
International Space Station when you're

957
00:40:39,589 --> 00:40:37,320
in a dynamic event like a docking or an

958
00:40:41,750 --> 00:40:39,599
undocking um but of course they do try

959
00:40:44,089 --> 00:40:41,760
and schedule their workouts around those

960
00:40:45,950 --> 00:40:44,099
those times

961
00:40:48,950 --> 00:40:45,960
yeah let's take a look at another

962
00:40:51,109 --> 00:40:48,960
question we have a couple minutes uh

963
00:40:54,470 --> 00:40:51,119

here about seven and a half minutes

964

00:40:56,690 --> 00:40:54,480

until that loss of signal dragon all

965

00:41:01,730 --> 00:40:56,700

Crews satchels are secure restraints

966

00:41:05,750 --> 00:41:03,829

Dragon we copy visors are down

967

00:41:11,210 --> 00:41:05,760

restraints are tight and tablets and

968

00:41:16,370 --> 00:41:13,849

all right good call out there just uh

969

00:41:19,370 --> 00:41:16,380

indicating that the crew has everything

970

00:41:22,609 --> 00:41:19,380

in place locked away make sure nothing

971

00:41:25,810 --> 00:41:22,619

pardon me uh nothing can escape its

972

00:41:28,150 --> 00:41:25,820

secure location during the re-entry

973

00:41:30,589 --> 00:41:28,160

portion and the visors are down so

974

00:41:32,990 --> 00:41:30,599

basically the crew is locked and loaded

975

00:41:35,329 --> 00:41:33,000

ready to ready to come home

976

00:41:39,710 --> 00:41:35,339

uh taking a look at this question

977

00:41:42,950 --> 00:41:39,720

um coming to us from uh taniko to wow

978

00:41:45,349 --> 00:41:42,960

this is tough teenago chicks uh balloy

979

00:41:47,990 --> 00:41:45,359

I'm I apologize for not pronouncing that

980

00:41:49,790 --> 00:41:48,000

correctly uh when the dragon approaches

981

00:41:52,370 --> 00:41:49,800

Earth how do you make sure that it does

982

00:41:54,410 --> 00:41:52,380

not collide with Airlines uh with

983

00:41:58,490 --> 00:41:54,420

airplanes in Flight uh that's a great

984

00:42:01,250 --> 00:41:58,500

question so part of the process to

985

00:42:04,310 --> 00:42:01,260

launch a spacecraft or bring it home is

986

00:42:06,050 --> 00:42:04,320

basically to get a license from the

987

00:42:09,950 --> 00:42:06,060

Federal Aviation Administration or the

988

00:42:13,250 --> 00:42:09,960

FAA and basically request that that

989

00:42:14,030 --> 00:42:13,260

airspace and sea space be quarantined

990

00:42:16,930 --> 00:42:14,040

off

991

00:42:20,390 --> 00:42:16,940

um in a keep out Zone basically so that

992

00:42:22,609 --> 00:42:20,400

aircraft and sea vessels are not in

993

00:42:24,349 --> 00:42:22,619

danger during this phase so

994

00:42:26,210 --> 00:42:24,359

um yeah it's it's a great question

995

00:42:29,810 --> 00:42:26,220

because you really have to think of

996

00:42:32,690 --> 00:42:29,820

because the Earth is a sphere it's a

997

00:42:34,609 --> 00:42:32,700

globe it is a three-dimensional process

998

00:42:35,630 --> 00:42:34,619

to re-enter the atmosphere it's not just

999

00:42:37,310 --> 00:42:35,640

coming

1000

00:42:39,710 --> 00:42:37,320

back down to earth it is that

1001
00:42:42,710 --> 00:42:39,720
three-dimensional space that airspace

1002
00:42:44,569 --> 00:42:42,720
that has to be cleared uh and and saved

1003
00:42:46,310 --> 00:42:44,579
basically

1004
00:42:47,630 --> 00:42:46,320
great question that is a good question

1005
00:42:50,329 --> 00:42:47,640
and I've seen some pretty amazing

1006
00:42:53,270 --> 00:42:50,339
pictures before of people in commercial

1007
00:42:56,089 --> 00:42:53,280
airplanes as they are in route somewhere

1008
00:42:58,430 --> 00:42:56,099
and and can see one of the spacecrafts

1009
00:43:01,069 --> 00:42:58,440
yeah so I would love to have that

1010
00:43:04,550 --> 00:43:01,079
opportunity someday same although with

1011
00:43:07,010 --> 00:43:04,560
uh how often we're launching out of

1012
00:43:09,530 --> 00:43:07,020
um Cape Canaveral and Kennedy Space

1013
00:43:12,530 --> 00:43:09,540

Center uh it's certainly more likely now

1014

00:43:15,829 --> 00:43:12,540

than it ever has been to catch

1015

00:43:20,809 --> 00:43:15,839

um a rocket launch from your window seat

1016

00:43:22,670 --> 00:43:20,819

while flying into uh Orlando Airport

1017

00:43:25,309 --> 00:43:22,680

another question coming to us this one

1018

00:43:26,630 --> 00:43:25,319

from Joshua green how did the departing

1019

00:43:28,849 --> 00:43:26,640

astronauts make sure they don't

1020

00:43:31,550 --> 00:43:28,859

accidentally leave any of their stuff on

1021

00:43:34,150 --> 00:43:31,560

the International Space Station and has

1022

00:43:36,530 --> 00:43:34,160

anyone forgotten anything up there

1023

00:43:38,390 --> 00:43:36,540

well there are checklists to make sure

1024

00:43:42,109 --> 00:43:38,400

that the astronauts don't leave anything

1025

00:43:44,630 --> 00:43:42,119

on the space station and of course I'm

1026

00:43:46,130 --> 00:43:44,640

sure some something has been left behind

1027

00:43:47,569 --> 00:43:46,140

at some point but there's always

1028

00:43:48,890 --> 00:43:47,579

somebody going up and coming back down

1029

00:43:50,930 --> 00:43:48,900

so maybe one of their friends is kind

1030

00:43:52,490 --> 00:43:50,940

enough to bring it back for them the

1031

00:43:54,410 --> 00:43:52,500

crew members themselves have a very

1032

00:43:57,170 --> 00:43:54,420

limited amount of space of what they can

1033

00:43:59,450 --> 00:43:57,180

choose to take up I've heard it referred

1034

00:44:01,990 --> 00:43:59,460

to as maybe like a shoe box size so they

1035

00:44:04,910 --> 00:44:02,000

might take up photos or jewelry or

1036

00:44:07,309 --> 00:44:04,920

special mementos for their friends or

1037

00:44:09,230 --> 00:44:07,319

family back home so those things I'm

1038

00:44:11,150 --> 00:44:09,240

sure they keep close personal track of

1039

00:44:14,870 --> 00:44:11,160

but then additionally there is a lot of

1040

00:44:17,030 --> 00:44:14,880

cargo or scientific research that is

1041

00:44:19,550 --> 00:44:17,040

excuse me uh loaded back onto Dragon

1042

00:44:21,410 --> 00:44:19,560

before it comes home so there are teams

1043

00:44:23,569 --> 00:44:21,420

specifically dedicated to tracking the

1044

00:44:26,450 --> 00:44:23,579

locations of items on the International

1045

00:44:27,890 --> 00:44:26,460

Space Station and make sure that our

1046

00:44:29,690 --> 00:44:27,900

crew members load them up before it's

1047

00:44:32,329 --> 00:44:29,700

time to come home

1048

00:44:35,089 --> 00:44:32,339

it's a good question yes

1049

00:44:37,490 --> 00:44:35,099

next one coming to us from sooner Source

1050

00:44:39,349 --> 00:44:37,500

my son Dex would like to know how fast

1051

00:44:41,270 --> 00:44:39,359

the capsule is going when it hits the

1052

00:44:42,470 --> 00:44:41,280

water oh that's actually a really great

1053

00:44:46,010 --> 00:44:42,480

question

1054

00:44:48,650 --> 00:44:46,020

um when I'll back up first um when the

1055

00:44:51,010 --> 00:44:48,660

castle is on station and when it departs

1056

00:44:54,050 --> 00:44:51,020

the space station it's going 17

1057

00:44:56,569 --> 00:44:54,060

500 miles per hour or they're about yeah

1058

00:44:59,870 --> 00:44:56,579

it's going really really fast and then

1059

00:45:01,790 --> 00:44:59,880

we do that uh deorbit burn which helps

1060

00:45:03,829 --> 00:45:01,800

to slow the vehicle down significantly

1061

00:45:06,290 --> 00:45:03,839

but at that point in time it's still

1062

00:45:08,089 --> 00:45:06,300

going uh I want to say it's about 500

1063

00:45:10,670 --> 00:45:08,099

miles per hour as it re-enters the

1064

00:45:12,710 --> 00:45:10,680

atmosphere that heat shield that we

1065

00:45:16,190 --> 00:45:12,720

talked about before is actually going to

1066

00:45:19,130 --> 00:45:16,200

do a lot of work that gets converted

1067

00:45:21,790 --> 00:45:19,140

into the form of heat that plasma that

1068

00:45:24,230 --> 00:45:21,800

builds up and actually slows it down so

1069

00:45:27,170 --> 00:45:24,240

the Earth's atmosphere is actually going

1070

00:45:29,870 --> 00:45:27,180

to help us out in slowing the vehicle

1071

00:45:31,670 --> 00:45:29,880

down even further as it re-enters the

1072

00:45:37,490 --> 00:45:31,680

Earth's atmosphere and then we have

1073

00:45:37,500 --> 00:45:44,710

Dragon SpaceX for entry briefing

1074

00:45:44,720 --> 00:45:49,550

go for a dragon

1075

00:45:54,530 --> 00:45:51,650

okay just to give you a quick update

1076

00:45:58,430 --> 00:45:54,540

here for timeline we are tracking no

1077

00:46:02,030 --> 00:45:58,440

Deltas in terms of vehicle status only

1078

00:46:05,089 --> 00:46:02,040

item to note is that you may get the

1079

00:46:07,609 --> 00:46:05,099

agps alerts when you come back out of

1080

00:46:11,089 --> 00:46:07,619

blackout just wanted to keep you an

1081

00:46:13,130 --> 00:46:11,099

update that if those have a the SDC at

1082

00:46:17,210 --> 00:46:13,140

the end of it there's no concern it has

1083

00:46:19,550 --> 00:46:17,220

no impact on Dragon's automated a flight

1084

00:46:26,930 --> 00:46:19,560

automated shoot deployment sequence I'll

1085

00:46:31,910 --> 00:46:30,230

okay copy we may get the agps alerts if

1086

00:46:35,030 --> 00:46:31,920

it's not Sierra don't necessarily that's

1087

00:46:38,690 --> 00:46:37,370

those are good words other than that the

1088

00:46:41,030 --> 00:46:38,700

weather's still looking good and we're

1089

00:46:41,990 --> 00:46:41,040

looking forward to getting you home

1090

00:46:44,450 --> 00:46:42,000

shortly

1091

00:46:45,849 --> 00:46:44,460

expected blackout time is in

1092

00:46:48,470 --> 00:46:45,859

approximately

1093

00:46:56,230 --> 00:46:48,480

two minutes or so we'll see you on the

1094

00:46:56,240 --> 00:47:00,470

copy see on the other side

1095

00:47:05,270 --> 00:47:03,170

wow we got to that uh anticipated

1096

00:47:07,849 --> 00:47:05,280

blackout time pretty quickly so again

1097

00:47:12,050 --> 00:47:07,859

that's coming up at about 5 58 p.m

1098

00:47:14,210 --> 00:47:12,060

Pacific time uh or I'm sorry about 5 48

1099

00:47:17,750 --> 00:47:14,220

p.m Pacific time

1100

00:47:19,250 --> 00:47:17,760

and so about 30 seconds from now uh we

1101
00:47:21,230 --> 00:47:19,260
will be out of communication with the

1102
00:47:23,569 --> 00:47:21,240
astronauts and the crew Dragon capsule

1103
00:47:26,510 --> 00:47:23,579
during that time uh the core mentioned

1104
00:47:31,010 --> 00:47:26,520
in agps potential alert coming up after

1105
00:47:32,809 --> 00:47:31,020
they uh require signal that will be that

1106
00:47:35,569 --> 00:47:32,819
is the absolute global positioning

1107
00:47:38,030 --> 00:47:35,579
system they had a couple of pop-ups

1108
00:47:40,329 --> 00:47:38,040
earlier but as you heard the core tell

1109
00:47:43,670 --> 00:47:40,339
the crew those are not of any concern

1110
00:47:45,230 --> 00:47:43,680
for them additionally I got a good

1111
00:47:48,829 --> 00:47:45,240
report for everything on crew Dragon

1112
00:47:53,270 --> 00:47:48,839
looking good as we head into this entry

1113
00:47:54,829 --> 00:47:53,280

period there was one ground item we were

1114

00:47:58,250 --> 00:47:54,839

monitoring that the corps discussed with

1115

00:48:00,589 --> 00:47:58,260

the crew earlier this evening the wb-57

1116

00:48:02,870 --> 00:48:00,599

will not be available due to a technical

1117

00:48:04,790 --> 00:48:02,880

issue of course this has no impact on

1118

00:48:06,770 --> 00:48:04,800

the operations it isn't necessary for

1119

00:48:08,990 --> 00:48:06,780

return everything continues to go very

1120

00:48:11,329 --> 00:48:09,000

smoothly the main purpose that we fly

1121

00:48:13,309 --> 00:48:11,339

the wb57 is to collect engineering

1122

00:48:15,170 --> 00:48:13,319

imagery in addition to what we get from

1123

00:48:17,270 --> 00:48:15,180

the cameras on the boat so so we will

1124

00:48:19,790 --> 00:48:17,280

have those cameras on the vote keeping

1125

00:48:21,290 --> 00:48:19,800

their eyes out to spot our crew members

1126
00:48:22,250 --> 00:48:21,300
as soon as they re-enter the Earth's

1127
00:48:24,589 --> 00:48:22,260
atmosphere

1128
00:48:26,630 --> 00:48:24,599
that's right now after crew Dragon

1129
00:48:28,849 --> 00:48:26,640
endurance has re-entered the Earth's

1130
00:48:31,670 --> 00:48:28,859
atmosphere a series of parachutes will

1131
00:48:33,710 --> 00:48:31,680
deploy to slow the crew's descent first

1132
00:48:35,930 --> 00:48:33,720
will be the two drogue parachutes

1133
00:48:38,690 --> 00:48:35,940
followed by the four main shoots to

1134
00:48:41,210 --> 00:48:38,700
guide dragon to its first contact with

1135
00:48:43,309 --> 00:48:41,220
Earth since it launched Dragon will

1136
00:48:45,170 --> 00:48:43,319
automatically deploy those parachutes

1137
00:48:47,870 --> 00:48:45,180
when different pressure and positioning

1138
00:48:50,750 --> 00:48:47,880

sensors on the capsule detect that they

1139

00:48:52,309 --> 00:48:50,760

are at the right speed and altitude and

1140

00:48:54,470 --> 00:48:52,319

we were just talking about these speeds

1141

00:48:57,470 --> 00:48:54,480

so the velocity at the drogue deploy

1142

00:49:00,170 --> 00:48:57,480

Point we've slowed down to 350 miles per

1143

00:49:03,349 --> 00:49:00,180

hour those deploy at about 18 000 feet

1144

00:49:04,790 --> 00:49:03,359

that is quite different from the 17 500

1145

00:49:07,730 --> 00:49:04,800

miles per hour we were just traveling

1146

00:49:10,250 --> 00:49:07,740

before the new orbit burn and then the

1147

00:49:12,890 --> 00:49:10,260

velocity at the time of main parachute

1148

00:49:15,890 --> 00:49:12,900

deploys about 119 miles per hour those

1149

00:49:18,290 --> 00:49:15,900

will deploy at about 6 500 feet and then

1150

00:49:21,290 --> 00:49:18,300

that gentle water splash down we will be

1151
00:49:23,510 --> 00:49:21,300
traveling at about 16 miles per hour so

1152
00:49:25,130 --> 00:49:23,520
again that highest we think is around

1153
00:49:27,470 --> 00:49:25,140
three to five G's so they should be

1154
00:49:29,450 --> 00:49:27,480
pretty comfortable uh just monitoring

1155
00:49:33,890 --> 00:49:29,460
again as all of those parachute deploys

1156
00:49:38,809 --> 00:49:36,710
again we are

1157
00:49:41,210 --> 00:49:38,819
we are in that Communications blackout

1158
00:49:43,550 --> 00:49:41,220
period it's just begun that's right um

1159
00:49:45,890 --> 00:49:43,560
we're expecting that to last about seven

1160
00:49:48,890 --> 00:49:45,900
minutes excuse me seven minutes

1161
00:49:51,349 --> 00:49:48,900
um due to the formation of plasma around

1162
00:49:53,390 --> 00:49:51,359
the spacecraft during that time no

1163
00:49:56,030 --> 00:49:53,400

vehicle Telemetry is received by mission

1164

00:49:57,950 --> 00:49:56,040

control or the recovery team and no

1165

00:50:00,589 --> 00:49:57,960

external commanding of the vehicle or

1166

00:50:02,690 --> 00:50:00,599

voice communication is possible as a

1167

00:50:05,270 --> 00:50:02,700

reminder dragon is designed to fly

1168

00:50:07,309 --> 00:50:05,280

itself though during re-entry the

1169

00:50:10,849 --> 00:50:07,319

vehicle will be slowing down from the

1170

00:50:13,069 --> 00:50:10,859

orbital velocity of 17 500 miles per

1171

00:50:16,069 --> 00:50:13,079

hour the top temperature that Dragon

1172

00:50:18,050 --> 00:50:16,079

will experience upon that re-entry in

1173

00:50:21,829 --> 00:50:18,060

terms of the exterior temperature is

1174

00:50:23,750 --> 00:50:21,839

around 3 500 degrees Fahrenheit so as we

1175

00:50:26,510 --> 00:50:23,760

mentioned before we expect this blackout

1176

00:50:30,290 --> 00:50:26,520

period to last several minutes

1177

00:50:31,270 --> 00:50:30,300

um we are basically now in that re-entry

1178

00:50:36,710 --> 00:50:31,280

period

1179

00:50:39,109 --> 00:50:36,720

and we anticipate this to

1180

00:50:41,930 --> 00:50:39,119

we anticipate getting that signal back

1181

00:50:44,030 --> 00:50:41,940

in about five minutes from now

1182

00:50:45,890 --> 00:50:44,040

this is moving pretty quickly because we

1183

00:50:48,890 --> 00:50:45,900

are anticipating those drug parachutes

1184

00:50:50,690 --> 00:50:48,900

to deploy at about 5 58 PM Pacific time

1185

00:50:52,849 --> 00:50:50,700

so really just seven minutes from now

1186

00:50:56,329 --> 00:50:52,859

we're looking at Splashdown around 11

1187

00:50:58,609 --> 00:50:56,339

minutes from now so this is a very uh

1188

00:51:01,010 --> 00:50:58,619

quick timeline a lot of things happening

1189

00:51:02,930 --> 00:51:01,020

in Rapid succession as our crew members

1190

00:51:05,569 --> 00:51:02,940

come home but again hearing we've heard

1191

00:51:08,030 --> 00:51:05,579

good reports uh so far and we are

1192

00:51:10,069 --> 00:51:08,040

awaiting that acquisition of signal in

1193

00:51:12,589 --> 00:51:10,079

around four and a half minutes

1194

00:51:15,410 --> 00:51:12,599

now one thing that if we were able to

1195

00:51:17,210 --> 00:51:15,420

get views inside the Dragon capsule

1196

00:51:19,670 --> 00:51:17,220

um which like we said before because of

1197

00:51:21,650 --> 00:51:19,680

that plasma build up we we are unable to

1198

00:51:23,210 --> 00:51:21,660

to get those views but if you were

1199

00:51:25,370 --> 00:51:23,220

watching earlier in the webcast you did

1200

00:51:27,950 --> 00:51:25,380

see those crew displays uh those touch

1201
00:51:29,210 --> 00:51:27,960
screen panels that the crew was using to

1202
00:51:31,309 --> 00:51:29,220
monitor

1203
00:51:35,089 --> 00:51:31,319
um the the health of the capsule the

1204
00:51:37,250 --> 00:51:35,099
state of um what was you know the the

1205
00:51:40,490 --> 00:51:37,260
state of command for what the Dragon

1206
00:51:43,430 --> 00:51:40,500
Castle was actually executing

1207
00:51:46,370 --> 00:51:43,440
um as of right now they also now have a

1208
00:51:48,170 --> 00:51:46,380
little map that shows where they are and

1209
00:51:49,490 --> 00:51:48,180
how much further they have to go for

1210
00:51:51,530 --> 00:51:49,500
this re-entry

1211
00:51:54,290 --> 00:51:51,540
um they will be able to follow along

1212
00:51:58,010 --> 00:51:54,300
with the anticipated deployment of those

1213
00:52:00,410 --> 00:51:58,020

parachutes one thing that the the crew

1214

00:52:02,390 --> 00:52:00,420

is trained to do is be aware of the

1215

00:52:04,549 --> 00:52:02,400

surroundings and of course when those

1216

00:52:07,670 --> 00:52:04,559

parachutes deploy because they are

1217

00:52:10,010 --> 00:52:07,680

slowing the capsule down it there is a a

1218

00:52:13,490 --> 00:52:10,020

small jolt that occurs during that

1219

00:52:16,309 --> 00:52:13,500

employment and so and also whenever they

1220

00:52:18,950 --> 00:52:16,319

splash down you'll also hear uh brace

1221

00:52:20,750 --> 00:52:18,960

for Splashdown or brace for impact that

1222

00:52:22,190 --> 00:52:20,760

is just the crew being aware and like

1223

00:52:24,710 --> 00:52:22,200

just getting ready holding on to their

1224

00:52:26,150 --> 00:52:24,720

seats uh for those moments where there's

1225

00:52:29,930 --> 00:52:26,160

a little bit more

1226

00:52:32,210 --> 00:52:29,940

um of a noticeable feel to uh where they

1227

00:52:34,670 --> 00:52:32,220

are in their seats right and I I think

1228

00:52:38,390 --> 00:52:34,680

it's very interesting after watching so

1229

00:52:41,270 --> 00:52:38,400

many uh splashdowns whenever we have

1230

00:52:43,450 --> 00:52:41,280

main parachute deploy they they don't

1231

00:52:46,490 --> 00:52:43,460

open to their full

1232

00:52:48,049 --> 00:52:46,500

ballooned shape right away if they do

1233

00:52:50,990 --> 00:52:48,059

something called reefing

1234

00:52:52,910 --> 00:52:51,000

so they open up quite slowly or

1235

00:52:56,390 --> 00:52:52,920

sometimes it appears that way that way

1236

00:52:58,250 --> 00:52:56,400

that jolt is not uh it's not exaggerated

1237

00:53:01,430 --> 00:52:58,260

any more than it has to be so they open

1238

00:53:04,609 --> 00:53:01,440

up slowly and slow the spacecraft down

1239

00:53:07,690 --> 00:53:04,619

again to about 16 miles per hour

1240

00:53:09,650 --> 00:53:07,700

again we're in the anticipated

1241

00:53:12,730 --> 00:53:09,660

loss of signal

1242

00:53:15,049 --> 00:53:12,740

there's uh two minutes or about

1243

00:53:17,089 --> 00:53:15,059

somewhere between two and three and a

1244

00:53:18,829 --> 00:53:17,099

half minutes remaining sometimes it's

1245

00:53:21,710 --> 00:53:18,839

hard to tell exactly when we'll be able

1246

00:53:24,230 --> 00:53:21,720

to get that signal back but we in about

1247

00:53:27,890 --> 00:53:24,240

three minutes we will start hearing uh

1248

00:53:30,290 --> 00:53:27,900

the core reach out to the crew to see if

1249

00:53:33,290 --> 00:53:30,300

they can make that connection

1250

00:53:36,049 --> 00:53:33,300

once again that the the loss of signal

1251
00:53:38,150 --> 00:53:36,059
is expected totally normal

1252
00:53:41,510 --> 00:53:38,160
um due to that buildup of plasma around

1253
00:53:43,670 --> 00:53:41,520
the exterior of the capsule

1254
00:53:47,210 --> 00:53:43,680
and we also have our recovery teams

1255
00:53:49,549 --> 00:53:47,220
already on site already on Shannon the

1256
00:53:51,230 --> 00:53:49,559
SpaceX recovery ship and that is waiting

1257
00:53:53,750 --> 00:53:51,240
off the coast of Tampa some of those

1258
00:53:55,370 --> 00:53:53,760
team members are at by helicopter we

1259
00:53:57,770 --> 00:53:55,380
have one of our NASA public affairs

1260
00:54:01,250 --> 00:53:57,780
officers also on

1261
00:54:04,730 --> 00:54:01,260
and there's our first view of the crew 5

1262
00:54:10,790 --> 00:54:04,740
crew in Dragon endurance re-entering the

1263
00:54:14,870 --> 00:54:13,069

So This Is A View From The Recovery ship

1264

00:54:16,670 --> 00:54:14,880

itself of crew Dragon re-entering

1265

00:54:18,290 --> 00:54:16,680

Earth's atmosphere of course we still do

1266

00:54:21,230 --> 00:54:18,300

not have communication with them because

1267

00:54:23,750 --> 00:54:21,240

you can see that plasma build up as they

1268

00:54:25,790 --> 00:54:23,760

are coming through the atmosphere that

1269

00:54:28,670 --> 00:54:25,800

heat shield doing all of the work to

1270

00:54:32,510 --> 00:54:28,680

ablate that heat as it builds up around

1271

00:54:34,609 --> 00:54:32,520

the capsule so again as we mentioned you

1272

00:54:37,430 --> 00:54:34,619

see the movements here that's the ship

1273

00:54:40,250 --> 00:54:37,440

camera moving and continuing to track

1274

00:54:42,530 --> 00:54:40,260

the spacecraft during re-entry we

1275

00:54:44,089 --> 00:54:42,540

anticipate reacquisition of signal in

1276
00:54:46,970 --> 00:54:44,099
just a couple of minutes from now as

1277
00:54:49,309 --> 00:54:46,980
Kate mentioned it can it can vary on

1278
00:54:51,049 --> 00:54:49,319
when we get that timing but great to

1279
00:54:52,849 --> 00:54:51,059
already have a view of our four

1280
00:54:57,710 --> 00:54:52,859
astronauts or three astronauts and one

1281
00:55:01,970 --> 00:54:59,390
there will also be a couple of Sonic

1282
00:55:06,109 --> 00:55:01,980
booms during that time frame

1283
00:55:12,710 --> 00:55:09,349
as I mentioned the SpaceX core SpaceX

1284
00:55:14,809 --> 00:55:12,720
dragons we have you Violet is clear

1285
00:55:24,170 --> 00:55:14,819
we have you the same good to have you

1286
00:55:28,309 --> 00:55:26,270
no it's incredible to know that the

1287
00:55:31,130 --> 00:55:28,319
voice we're hearing is coming from that

1288
00:55:32,450 --> 00:55:31,140

wow gorgeous ball of light and all of

1289

00:55:34,250 --> 00:55:32,460

the other little Points of Light you see

1290

00:55:35,930 --> 00:55:34,260

around it they appear to be

1291

00:55:38,390 --> 00:55:35,940

um streaking on the camera a little bit

1292

00:55:39,530 --> 00:55:38,400

those are stars uh obviously that

1293

00:55:41,930 --> 00:55:39,540

beautiful bright light in the middle

1294

00:55:43,930 --> 00:55:41,940

that's crew Dragon endurance coming home

1295

00:55:48,589 --> 00:55:43,940

after

1296

00:55:54,170 --> 00:55:51,470

we are standing by for drogue parachute

1297

00:55:57,829 --> 00:55:56,089

that'll be in about two minutes but we

1298

00:55:59,390 --> 00:55:57,839

already do have acquisition of signal

1299

00:56:01,430 --> 00:55:59,400

that came again a little bit earlier

1300

00:56:03,589 --> 00:56:01,440

than we expected so that's right it is a

1301
00:56:06,049 --> 00:56:03,599
little hard to Target sometimes

1302
00:56:11,530 --> 00:56:06,059
GPS has converged expect nominal

1303
00:56:11,540 --> 00:56:19,670
Dragon Hobby

1304
00:56:25,490 --> 00:56:21,650
again that point of Lights in the center

1305
00:56:29,089 --> 00:56:25,500
of your screen that is Dragon endurance

1306
00:56:32,450 --> 00:56:29,099
another a different View

1307
00:56:35,030 --> 00:56:32,460
this one infrared coming from the

1308
00:56:37,250 --> 00:56:35,040
recovery ship as we were mentioning all

1309
00:56:38,930 --> 00:56:37,260
of those team members that are ready to

1310
00:56:40,730 --> 00:56:38,940
recover the astronauts are on the ship

1311
00:56:42,349 --> 00:56:40,740
they are in position it'll take just a

1312
00:56:44,690 --> 00:56:42,359
little bit for them to move in toward

1313
00:56:46,490 --> 00:56:44,700

the capsule once it lands but they all

1314

00:56:48,950 --> 00:56:46,500

have a very important and distinct role

1315

00:56:52,130 --> 00:56:48,960

to play either retrieving the capsule or

1316

00:56:54,230 --> 00:56:52,140

helping the astronauts egress and they

1317

00:56:57,349 --> 00:56:54,240

are all standing by

1318

00:57:00,010 --> 00:56:57,359

this point in time Dragon endurance is

1319

00:57:03,290 --> 00:57:00,020

about to deploy the drogue parachutes

1320

00:57:07,130 --> 00:57:03,300

those automatically deploy about around

1321

00:57:13,609 --> 00:57:07,140

the 18 000 foot Mark and the council is

1322

00:57:13,619 --> 00:57:18,910

brace for drogue window

1323

00:57:18,920 --> 00:57:23,030

Dragon brace

1324

00:57:26,450 --> 00:57:24,829

so just to call out there to let the

1325

00:57:28,730 --> 00:57:26,460

crew know that they are approaching that

1326
00:57:30,710 --> 00:57:28,740
window where the drug parachutes will

1327
00:57:34,130 --> 00:57:30,720
automatically deploy

1328
00:57:36,410 --> 00:57:34,140
and just prior to the deployment

1329
00:57:38,809 --> 00:57:36,420
um Dragon automatically safes the

1330
00:57:40,430 --> 00:57:38,819
propulsion system and then deploys the

1331
00:57:42,770 --> 00:57:40,440
parachutes to stabilize and help

1332
00:57:45,010 --> 00:57:42,780
decelerate the spacecraft

1333
00:57:48,829 --> 00:57:45,020
so like we said we're getting ready for

1334
00:57:51,230 --> 00:57:48,839
those drogue parachutes to deploy on

1335
00:57:55,069 --> 00:57:51,240
dragon that occurs automatically when

1336
00:57:57,770 --> 00:57:55,079
it's about 18 000 feet above the ocean

1337
00:58:01,010 --> 00:57:57,780
surface and the capsule is going roughly

1338
00:58:03,770 --> 00:58:01,020

350 miles per hour in that view before

1339

00:58:07,130 --> 00:58:03,780

there was a difference and here we can

1340

00:58:09,349 --> 00:58:07,140

see it's no longer quite streaking like

1341

00:58:11,630 --> 00:58:09,359

it was just moments ago or minutes ago I

1342

00:58:14,390 --> 00:58:11,640

should say like I said before it looks

1343

00:58:17,510 --> 00:58:14,400

like those joke deploys are now

1344

00:58:17,520 --> 00:58:29,450

we got visual on two healthy drugs

1345

00:58:35,030 --> 00:58:31,849

as you can see with that infrared view

1346

00:58:36,589 --> 00:58:35,040

we have two healthy drogue parachutes on

1347

00:58:41,690 --> 00:58:36,599

Dragon

1348

00:58:44,210 --> 00:58:41,700

drogue chutes

1349

00:58:46,849 --> 00:58:44,220

those will remain

1350

00:58:49,309 --> 00:58:46,859

attached to the spacecraft until they

1351
00:58:53,150 --> 00:58:49,319
help deploy the main parachutes coming

1352
00:58:55,309 --> 00:58:53,160
up in just a few moments

1353
00:58:57,530 --> 00:58:55,319
again these views coming to us from the

1354
00:59:01,730 --> 00:58:57,540
recovery ship standing by to recover our

1355
00:59:01,740 --> 00:59:07,730
looks like we uh

1356
00:59:14,890 --> 00:59:10,069
it looks like we have main parachute

1357
00:59:14,900 --> 00:59:21,940
main shoot descent rate nominal

1358
00:59:28,910 --> 00:59:26,150
[Music]

1359
00:59:31,430 --> 00:59:28,920
a beautiful one thousand

1360
00:59:34,789 --> 00:59:31,440
beautiful view there from that recovery

1361
00:59:37,490 --> 00:59:34,799
vessel of dragon endurance with those

1362
00:59:39,170 --> 00:59:37,500
four healthy main parachutes

1363
00:59:42,650 --> 00:59:39,180

at this point in time the capsule is

1364

00:59:44,870 --> 00:59:42,660

going about 119 or was going about 119

1365

00:59:49,970 --> 00:59:44,880

miles per hour when those were deployed

1366

00:59:52,190 --> 00:59:49,980

and they also deployed about 6 500 feet

1367

00:59:54,349 --> 00:59:52,200

so these main parachutes will help slow

1368

00:59:57,049 --> 00:59:54,359

the vehicle down even further to about

1369

00:59:59,270 --> 00:59:57,059

800 meters

1370

01:00:02,450 --> 00:59:59,280

copy 800.

1371

01:00:04,609 --> 01:00:02,460

uh so that we'll hear from the crew um

1372

01:00:06,170 --> 01:00:04,619

about how far they are above the surface

1373

01:00:09,410 --> 01:00:06,180

of the water um so there we just heard

1374

01:00:11,630 --> 01:00:09,420

that call out for 800 meters the capsule

1375

01:00:13,730 --> 01:00:11,640

is slowing down further and further by

1376

01:00:16,010 --> 01:00:13,740

the time that it actually splashes down

1377

01:00:17,930 --> 01:00:16,020

it'll only be going about 16 miles per

1378

01:00:20,990 --> 01:00:17,940

hour

1379

01:00:22,910 --> 01:00:21,000

it's fascinating to think that uh just

1380

01:00:25,250 --> 01:00:22,920

minutes ago really they were in outer

1381

01:00:31,190 --> 01:00:28,849

copy 600 and are now just 600 meters

1382

01:00:34,010 --> 01:00:31,200

above Earth again we are targeting a 902

1383

01:00:37,130 --> 01:00:34,020

PM Eastern Time Splashdown 602 PM

1384

01:00:38,870 --> 01:00:37,140

Pacific so that is the next major

1385

01:00:40,910 --> 01:00:38,880

milestone for us today now that we have

1386

01:00:42,950 --> 01:00:40,920

four healthy main parachutes all

1387

01:00:44,750 --> 01:00:42,960

deployed things continue to look good

1388

01:00:47,329 --> 01:00:44,760

aboard dragon

1389

01:00:50,870 --> 01:00:47,339

that's right we're about a little less

1390

01:00:54,470 --> 01:00:50,880

than a minute and a half away from the

1391

01:00:59,210 --> 01:00:56,870

copy 400 meters

1392

01:01:04,490 --> 01:00:59,220

once again we are targeting a Splashdown

1393

01:01:07,130 --> 01:01:04,500

off the coast of Florida uh near Tampa

1394

01:01:08,630 --> 01:01:07,140

this is what we would consider a golf

1395

01:01:11,690 --> 01:01:08,640

Landing

1396

01:01:14,630 --> 01:01:11,700

and those uh strobes of light on your

1397

01:01:17,150 --> 01:01:14,640

screen those are spotlights coming from

1398

01:01:18,829 --> 01:01:17,160

the recovery vessels as they continue to

1399

01:01:21,530 --> 01:01:18,839

track

1400

01:01:24,710 --> 01:01:21,540

Dragon endurance 200 meters crew

1401
01:01:24,720 --> 01:01:28,430
copy 200 and braced

1402
01:01:32,450 --> 01:01:30,470
Commander Nicole Mann giving out that

1403
01:01:33,950 --> 01:01:32,460
call as we are standing by for

1404
01:01:48,710 --> 01:01:33,960
Splashdown off the coast of Tampa

1405
01:01:48,720 --> 01:01:54,589
there we can see the water surface

1406
01:02:04,250 --> 01:01:56,450
Dragon endurance coming closer and

1407
01:02:04,260 --> 01:02:10,450
and as you just saw Splashdown of crew 5

1408
01:02:20,270 --> 01:02:15,589
7 Days in SpaceX Dragon Splashdown names

1409
01:02:25,490 --> 01:02:22,910
copy Dragon we concur with Splashdown

1410
01:02:29,990 --> 01:02:25,500
and Mains released Dragon Endurance on

1411
01:02:33,829 --> 01:02:31,849
as you can see on your screen visual

1412
01:02:36,109 --> 01:02:33,839
confirmation for Splashdown thank you

1413
01:02:37,789 --> 01:02:36,119

that was on one heck of a ride we're

1414

01:02:41,210 --> 01:02:37,799

happy to be home looking forward to next

1415

01:02:46,549 --> 01:02:44,030

Dragon endurance has returned home and

1416

01:02:49,849 --> 01:02:46,559

NASA astronauts Nicole Mann and Josh

1417

01:02:52,730 --> 01:02:49,859

cassida shaxa astronaut kuichu wakata

1418

01:02:55,549 --> 01:02:52,740

and roscosmos cosmena Anna kikuna are

1419

01:02:58,730 --> 01:02:55,559

back on Earth after an approximately 19

1420

01:03:00,890 --> 01:02:58,740

Hour Return Journey from space

1421

01:03:03,049 --> 01:03:00,900

the SpaceX recovery ship and team has

1422

01:03:04,849 --> 01:03:03,059

been waiting for Dragons Splashdown and

1423

01:03:07,069 --> 01:03:04,859

now as you can see they're making their

1424

01:03:08,569 --> 01:03:07,079

way to that splashdown location

1425

01:03:10,309 --> 01:03:08,579

right and these teams have been ready

1426

01:03:12,470 --> 01:03:10,319

and been waiting about three nautical

1427

01:03:14,390 --> 01:03:12,480

miles away so it'll take them around 30

1428

01:03:17,750 --> 01:03:14,400

minutes to make their way to Nicole

1429

01:03:19,910 --> 01:03:17,760

joshuichi and Anna inside Dragon we will

1430

01:03:21,829 --> 01:03:19,920

be listening for Mission Control

1431

01:03:24,049 --> 01:03:21,839

Hawthorne to give the go for the safe

1432

01:03:26,510 --> 01:03:24,059

approach now that we have Splashdown

1433

01:03:27,770 --> 01:03:26,520

there are several different roles there

1434

01:03:29,690 --> 01:03:27,780

is an approach boat that will begin

1435

01:03:32,150 --> 01:03:29,700

inspections they want to make sure that

1436

01:03:35,630 --> 01:03:32,160

there aren't any hyper Galls mono methyl

1437

01:03:37,730 --> 01:03:35,640

hydrogen and nitrogen tetroxide still

1438

01:03:40,370 --> 01:03:37,740

lingering around the spacecraft that way

1439

01:03:46,490 --> 01:03:40,380

it is safe for the teams to move in even

1440

01:03:52,370 --> 01:03:49,730

yeah the crew will basically uh approach

1441

01:03:55,849 --> 01:03:52,380

the capsule

1442

01:03:58,430 --> 01:03:55,859

um and they use uh what's basically a a

1443

01:04:02,809 --> 01:03:58,440

sniffing device a device that can detect

1444

01:04:06,230 --> 01:04:02,819

uh those levels of mmh and nto

1445

01:04:08,030 --> 01:04:06,240

um and they are toxic to breathe and so

1446

01:04:09,230 --> 01:04:08,040

this is a super important step to

1447

01:04:11,630 --> 01:04:09,240

complete

1448

01:04:17,089 --> 01:04:11,640

um I think this Dragon looks like we are

1449

01:04:20,930 --> 01:04:19,190

that Dragon we Concur and I'm happy to

1450

01:04:26,089 --> 01:04:20,940

report that the recovery Personnel have

1451

01:04:26,099 --> 01:04:29,990

awesome thank you

1452

01:04:33,710 --> 01:04:31,849

so just some communication there back

1453

01:04:38,329 --> 01:04:33,720

and forth with SpaceX core Michael

1454

01:04:41,930 --> 01:04:38,339

blasko and capsule Commander Nicole Mann

1455

01:04:44,990 --> 01:04:41,940

just to confirm the landing position of

1456

01:04:46,849 --> 01:04:45,000

the capsule itself as we can see there

1457

01:04:50,329 --> 01:04:46,859

on your screen even better now with that

1458

01:04:51,890 --> 01:04:50,339

Spotlight the crew recovery team is

1459

01:04:53,390 --> 01:04:51,900

approaching

1460

01:04:55,789 --> 01:04:53,400

um the capsule they are going to make

1461

01:04:59,390 --> 01:04:55,799

sure that that monomethyl hydrazine and

1462

01:05:01,670 --> 01:04:59,400

nitrogen tetroxide is not present on the

1463

01:05:04,549 --> 01:05:01,680

exterior of the vehicle there could

1464

01:05:07,730 --> 01:05:04,559

potentially be traces due to the fact

1465

01:05:09,829 --> 01:05:07,740

that those are the thrusters that Dragon

1466

01:05:10,630 --> 01:05:09,839

was using while

1467

01:05:13,910 --> 01:05:10,640

um

1468

01:05:16,130 --> 01:05:13,920

in orbit and so we want to make sure

1469

01:05:19,309 --> 01:05:16,140

that there aren't any traces of those

1470

01:05:21,410 --> 01:05:19,319

fumes basically so that the team can get

1471

01:05:24,170 --> 01:05:21,420

close to the capsule we will actually

1472

01:05:27,650 --> 01:05:24,180

see an individual climbing on top of the

1473

01:05:30,829 --> 01:05:27,660

capsule to secure the of the harnesses

1474

01:05:33,890 --> 01:05:30,839

that are necessary the rigging to to

1475

01:05:37,750 --> 01:05:33,900

lift the capsule onto the recovery

1476

01:05:40,670 --> 01:05:37,760

vessel as I have said before

1477

01:05:43,089 --> 01:05:40,680

certainly a job that I would not be fit

1478

01:05:46,910 --> 01:05:43,099

to do as it avoids

1479

01:05:50,030 --> 01:05:46,920

as it requires jumping into what we can

1480

01:05:53,450 --> 01:05:51,890

um and climbing on top of the capsule

1481

01:05:55,309 --> 01:05:53,460

and securing that that heart those

1482

01:05:57,410 --> 01:05:55,319

harnesses where's your sense of

1483

01:06:00,349 --> 01:05:57,420

adventure

1484

01:06:02,089 --> 01:06:00,359

as we heard the core and the crew

1485

01:06:04,010 --> 01:06:02,099

communicate the capsule is in stable one

1486

01:06:06,410 --> 01:06:04,020

that means it's in an upright position

1487

01:06:08,770 --> 01:06:06,420

in the water that makes it easier to

1488

01:06:11,329 --> 01:06:08,780

recover obviously that is the ideal

1489

01:06:13,549 --> 01:06:11,339

Splashdown position for the capsule

1490

01:06:15,170 --> 01:06:13,559

itself so the crew members are still

1491

01:06:16,670 --> 01:06:15,180

inside they are still in their suits in

1492

01:06:19,190 --> 01:06:16,680

their seats they will remain that way

1493

01:06:22,789 --> 01:06:19,200

until the spacecraft itself is lifted

1494

01:06:25,970 --> 01:06:22,799

onto the recovery vessel but the first

1495

01:06:27,410 --> 01:06:25,980

ships arrive are those fast boats again

1496

01:06:29,270 --> 01:06:27,420

they are just checking out the

1497

01:06:34,430 --> 01:06:29,280

spacecraft making sure that it's safe

1498

01:06:40,549 --> 01:06:36,109

so for those of you that have just

1499

01:06:43,910 --> 01:06:40,559

recently joined the crew 5 team has

1500

01:06:46,970 --> 01:06:43,920

splashed down off the coast of Tampa

1501
01:06:49,730 --> 01:06:46,980
Florida that occurred just minutes ago

1502
01:07:01,130 --> 01:06:49,740
and the recovery teams are now moving

1503
01:07:07,250 --> 01:07:04,849
and we're anticipating that those first

1504
01:07:10,370 --> 01:07:07,260
approach boats will arrive at the

1505
01:07:13,010 --> 01:07:10,380
capsule just a few minutes from now

1506
01:07:15,109 --> 01:07:13,020
Dragon SpaceX is go for Recovery

1507
01:07:21,550 --> 01:07:15,119
Personnel to approach expect Personnel

1508
01:07:21,560 --> 01:07:26,270
[Applause]

1509
01:07:31,010 --> 01:07:28,970
SpaceX core just giving the crew a heads

1510
01:07:33,289 --> 01:07:31,020
up hey you might be seeing some people

1511
01:07:35,630 --> 01:07:33,299
on the outside of the capsule it's to be

1512
01:07:39,109 --> 01:07:35,640
expected yeah first people that they've

1513
01:07:40,250 --> 01:07:39,119

seen uh on Earth you know in almost six

1514

01:07:44,630 --> 01:07:40,260

months

1515

01:07:46,510 --> 01:07:44,640

that's right 157 days in space

1516

01:07:51,230 --> 01:07:46,520

now complete

1517

01:07:51,829 --> 01:07:51,240

as Dragon endurance with the crew 5 crew

1518

01:08:01,430 --> 01:07:51,839

um

1519

01:08:06,289 --> 01:08:04,309

again this was the first flight so the

1520

01:08:08,690 --> 01:08:06,299

first re-entry experience as well for

1521

01:08:12,109 --> 01:08:08,700

three of these crew members Nicole man

1522

01:08:14,569 --> 01:08:12,119

Josh cassida and Anna kikuna

1523

01:08:16,910 --> 01:08:14,579

I'm sure that kuichiwakata who now has

1524

01:08:18,530 --> 01:08:16,920

505 days in space across five space

1525

01:08:20,030 --> 01:08:18,540

flights told them a lot of what to

1526

01:08:22,789 --> 01:08:20,040

expect but it was a new spacecraft for

1527

01:08:29,209 --> 01:08:22,799

him too so a lot of new and exciting

1528

01:08:34,789 --> 01:08:32,510

as we said before the crew generally

1529

01:08:38,689 --> 01:08:34,799

experiences between three to five G's

1530

01:08:43,249 --> 01:08:38,699

during the re-entry portion of the

1531

01:08:49,729 --> 01:08:43,259

um of their journey home so not too bad

1532

01:08:54,349 --> 01:08:51,950

again these views coming to us from

1533

01:08:56,749 --> 01:08:54,359

recovery vessels off the coast of Tampa

1534

01:08:59,689 --> 01:08:56,759

Florida had an on time splash down at

1535

01:09:01,849 --> 01:08:59,699

902 PM eastern time and from what we can

1536

01:09:04,249 --> 01:09:01,859

see I would say those weather reports

1537

01:09:06,050 --> 01:09:04,259

were pretty accurate we had clear skies

1538

01:09:07,789 --> 01:09:06,060

able to see the spacecraft coming down

1539

01:09:10,729 --> 01:09:07,799

under those four main parachutes and

1540

01:09:16,910 --> 01:09:10,739

even the drogue shoots as well and the

1541

01:09:22,189 --> 01:09:18,590

that's right so as Leo just said that

1542

01:09:24,289 --> 01:09:22,199

Splashdown occurred seven minutes ago

1543

01:09:26,209 --> 01:09:24,299

in a few minutes

1544

01:09:29,150 --> 01:09:26,219

um so there's there's still more things

1545

01:09:30,590 --> 01:09:29,160

that has to occur it's um we can't just

1546

01:09:33,229 --> 01:09:30,600

pick up the capsule and put them on a

1547

01:09:35,329 --> 01:09:33,239

boat and bring them out very similar to

1548

01:09:37,249 --> 01:09:35,339

their activities in space their

1549

01:09:40,430 --> 01:09:37,259

activities here for Recovery back on

1550

01:09:43,550 --> 01:09:40,440

Earth are also uh very highly uh

1551
01:09:46,370 --> 01:09:43,560
coordinated and uh and choreographed

1552
01:09:49,490 --> 01:09:46,380
really so we can see that the approach

1553
01:09:51,650 --> 01:09:49,500
boat has reached the capsule we should

1554
01:09:54,410 --> 01:09:51,660
see hopefully it might be it might be

1555
01:09:56,570 --> 01:09:54,420
tough because of the distance but we

1556
01:09:58,610 --> 01:09:56,580
will hopefully be able to see one of the

1557
01:10:01,910 --> 01:09:58,620
SpaceX recovery team members will

1558
01:10:03,950 --> 01:10:01,920
actually hop in the water and then pull

1559
01:10:06,830 --> 01:10:03,960
themselves up onto the capsule to

1560
01:10:08,870 --> 01:10:06,840
basically secure the harnesses that are

1561
01:10:12,470 --> 01:10:08,880
required to lift the capsule onto the

1562
01:10:14,570 --> 01:10:12,480
recovery vessel as of right now if we

1563
01:10:17,090 --> 01:10:14,580

were able to see

1564

01:10:18,890 --> 01:10:17,100

Dragon SpaceX requesting permission to

1565

01:10:25,550 --> 01:10:18,900

come on board via the display camera

1566

01:10:25,560 --> 01:10:28,910

welcome on board

1567

01:10:33,709 --> 01:10:30,649

all right so just

1568

01:10:38,330 --> 01:10:35,990

SpaceX Mission Control basically just

1569

01:10:40,490 --> 01:10:38,340

making sure it's okay for us to turn

1570

01:10:41,630 --> 01:10:40,500

those interior cameras on so we should

1571

01:10:44,030 --> 01:10:41,640

get a view

1572

01:10:46,910 --> 01:10:44,040

um the one that we saw before that sits

1573

01:10:49,729 --> 01:10:46,920

between pilot Josh cassida and Commander

1574

01:10:51,950 --> 01:10:49,739

Colt Nicole Mann so we can see the the

1575

01:10:53,750 --> 01:10:51,960

screens that they're looking at

1576

01:10:56,810 --> 01:10:53,760

um but as we were saying the the

1577

01:10:59,630 --> 01:10:56,820

recovery team is circling the vessel

1578

01:11:02,209 --> 01:10:59,640

just making sure that there are no

1579

01:11:05,149 --> 01:11:02,219

hypergol fumes there that are present

1580

01:11:07,930 --> 01:11:05,159

there's also another team circling and

1581

01:11:11,030 --> 01:11:07,940

Gathering the parachutes from the water

1582

01:11:11,630 --> 01:11:11,040

to try and recover those as well

1583

01:11:14,330 --> 01:11:11,640

um

1584

01:11:16,430 --> 01:11:14,340

I once we hear the call out that there

1585

01:11:18,290 --> 01:11:16,440

are no hyper goals present the the

1586

01:11:19,430 --> 01:11:18,300

recovery team will be able to take off

1587

01:11:24,410 --> 01:11:19,440

their

1588

01:11:26,870 --> 01:11:24,420

to see them they would have personal

1589

01:11:29,510 --> 01:11:26,880

protection Excuse excuse me personal

1590

01:11:31,250 --> 01:11:29,520

protective equipment on those breather

1591

01:11:34,070 --> 01:11:31,260

masks basically to make sure that

1592

01:11:35,149 --> 01:11:34,080

they're breathing clean air to ensure

1593

01:11:42,709 --> 01:11:35,159

that

1594

01:11:47,870 --> 01:11:45,050

of course during this time oh look here

1595

01:11:50,209 --> 01:11:47,880

we are that's our crew five astronauts

1596

01:11:53,450 --> 01:11:50,219

now back on Earth again on the left you

1597

01:11:55,729 --> 01:11:53,460

can just see the top of her helmet visor

1598

01:11:58,189 --> 01:11:55,739

that's Commander Nicole man NASA

1599

01:12:01,070 --> 01:11:58,199

astronaut and on the right NASA's Josh

1600

01:12:03,290 --> 01:12:01,080

cassida the pilot for the mission

1601
01:12:12,290 --> 01:12:03,300
SpaceX is back on board with the display

1602
01:12:17,090 --> 01:12:14,870
that capsule we were seeing uh

1603
01:12:20,450 --> 01:12:17,100
sitting in the water just off the coast

1604
01:12:23,209 --> 01:12:20,460
of Tampa also on board we have oh and a

1605
01:12:25,130 --> 01:12:23,219
thumbs up there from Nicole man and Josh

1606
01:12:28,130 --> 01:12:25,140
cassador I imagine probably the same

1607
01:12:29,930 --> 01:12:28,140
from kuichiwakata and anakikina uh but

1608
01:12:32,090 --> 01:12:29,940
to their right and left as the mission

1609
01:12:33,950 --> 01:12:32,100
Specialists and a good look again at

1610
01:12:36,350 --> 01:12:33,960
those crew displays

1611
01:12:38,510 --> 01:12:36,360
um Dragon again a totally autonomous

1612
01:12:42,229 --> 01:12:38,520
flight home they are just able to

1613
01:12:44,689 --> 01:12:42,239

monitor the next steps and await

1614

01:12:46,850 --> 01:12:44,699

for the spacecraft to be picked up by

1615

01:12:48,350 --> 01:12:46,860

the recovery vessel so once those

1616

01:12:51,410 --> 01:12:48,360

Ordnance and Hyper Gall checks are

1617

01:12:53,450 --> 01:12:51,420

complete it'll take about 18 a little

1618

01:12:55,910 --> 01:12:53,460

less than 20 minutes for the rigging to

1619

01:12:58,729 --> 01:12:55,920

be complete and around the same time we

1620

01:13:00,410 --> 01:12:58,739

expect the recovery ship to arrive and

1621

01:13:03,470 --> 01:13:00,420

shortly thereafter they will begin to

1622

01:13:05,570 --> 01:13:03,480

lift Dragon onto the nest on the

1623

01:13:07,130 --> 01:13:05,580

recovery ship they'll pull it toward a

1624

01:13:10,010 --> 01:13:07,140

platform

1625

01:13:11,990 --> 01:13:10,020

Dragon SpaceX hypergol sweeps and

1626
01:13:15,229 --> 01:13:12,000
unfired Ordnance checks are nominal

1627
01:13:18,649 --> 01:13:15,239
rigging is in progress approximately 25

1628
01:13:25,450 --> 01:13:18,659
minutes until capsule lift standby for

1629
01:13:25,460 --> 01:13:29,870
Dragon City

1630
01:13:34,070 --> 01:13:32,390
so confirming good ordinance and Hyper

1631
01:13:37,130 --> 01:13:34,080
gold checks meaning they didn't detect

1632
01:13:39,649 --> 01:13:37,140
any of those fumes that would prevent us

1633
01:13:42,290 --> 01:13:39,659
from coming closer to the spacecraft as

1634
01:13:43,910 --> 01:13:42,300
well as we are anticipating they will

1635
01:13:46,070 --> 01:13:43,920
have a private medical conference with

1636
01:13:48,830 --> 01:13:46,080
these SpaceX flight doctors this is

1637
01:13:50,030 --> 01:13:48,840
normal routine for astronauts they have

1638
01:13:52,550 --> 01:13:50,040

them regularly on the International

1639

01:13:54,950 --> 01:13:52,560

Space Station they have them after

1640

01:13:57,169 --> 01:13:54,960

launch and obviously after Splashdown so

1641

01:14:01,850 --> 01:13:57,179

just a chance for the crew members to

1642

01:14:03,950 --> 01:14:01,860

check in with the medical teams

1643

01:14:05,470 --> 01:14:03,960

that's right so that view there on the

1644

01:14:08,350 --> 01:14:05,480

right hand side

1645

01:14:12,110 --> 01:14:08,360

there is now an individual

1646

01:14:15,830 --> 01:14:12,120

who is basically climbing or will be

1647

01:14:18,610 --> 01:14:15,840

climbing on top of the Dragon capsule to

1648

01:14:21,890 --> 01:14:18,620

secure the harnesses and the rigging

1649

01:14:24,830 --> 01:14:21,900

that we will use to lift the Dragon

1650

01:14:26,810 --> 01:14:24,840

capsule out of the water and onto that

1651

01:14:30,910 --> 01:14:26,820

recovery vessel

1652

01:14:34,250 --> 01:14:30,920

is in route

1653

01:14:36,169 --> 01:14:34,260

it is getting closer and closer to the

1654

01:14:39,169 --> 01:14:36,179

Dragon capsule so we should have some

1655

01:14:41,510 --> 01:14:39,179

better views As Time continues but as

1656

01:14:44,450 --> 01:14:41,520

that call out that we just heard about a

1657

01:14:48,290 --> 01:14:44,460

minute ago everything checked out from

1658

01:14:51,830 --> 01:14:48,300

the uh the hyper Gall standpoint uh none

1659

01:14:54,830 --> 01:14:51,840

were lingering and so the crew the

1660

01:14:57,350 --> 01:14:54,840

recovery team excuse me is okay to take

1661

01:14:59,390 --> 01:14:57,360

off those uh those respirators that they

1662

01:15:02,169 --> 01:14:59,400

were using for safety purposes and

1663

01:15:10,430 --> 01:15:02,179

proceed with the nominal

1664

01:15:17,450 --> 01:15:13,610

once these crew members arrive on the

1665

01:15:20,330 --> 01:15:17,460

recovery vessel Shannon they will again

1666

01:15:22,189 --> 01:15:20,340

be placed in the nest the endurance

1667

01:15:24,050 --> 01:15:22,199

spacecraft itself will be placed in the

1668

01:15:26,390 --> 01:15:24,060

nest and moved to a platform where the

1669

01:15:28,729 --> 01:15:26,400

astronauts will egress that side hatch

1670

01:15:46,550 --> 01:15:28,739

being opened for the first time in 157

1671

01:15:52,130 --> 01:15:49,189

might have been a false alarm false

1672

01:15:53,390 --> 01:15:52,140

quindar so they uh the astronauts will

1673

01:15:55,550 --> 01:15:53,400

egress

1674

01:15:58,189 --> 01:15:55,560

um and as with every space flight that

1675

01:16:02,090 --> 01:15:58,199

we see whether they are flying excuse me

1676

01:16:04,490 --> 01:16:02,100

from uh here in America on

1677

01:16:06,770 --> 01:16:04,500

dragon or if they are in a soyuz

1678

01:16:08,570 --> 01:16:06,780

spacecraft all astronauts and cosmonauts

1679

01:16:10,970 --> 01:16:08,580

receive medical checkouts after they

1680

01:16:13,010 --> 01:16:10,980

land again

1681

01:16:15,350 --> 01:16:13,020

this is our totally normal procedure

1682

01:16:17,330 --> 01:16:15,360

just an opportunity for them to get

1683

01:16:19,729 --> 01:16:17,340

checked out it is quite an environment

1684

01:16:24,110 --> 01:16:19,739

change coming back from 157 days in

1685

01:16:26,450 --> 01:16:24,120

microgravity back to uh 1G here on Earth

1686

01:16:27,950 --> 01:16:26,460

that's absolutely right but one thing

1687

01:16:32,030 --> 01:16:27,960

that is for sure

1688

01:16:35,090 --> 01:16:32,040

um of the recovery uh excuse me of the

1689

01:16:38,510 --> 01:16:35,100

Splashdown and Recovery views that we've

1690

01:16:41,510 --> 01:16:38,520

had whenever we see the crew coming out

1691

01:16:43,790 --> 01:16:41,520

of the capsule I've yet to see somebody

1692

01:16:44,950 --> 01:16:43,800

come out that didn't have a smile on

1693

01:16:48,050 --> 01:16:44,960

their face

1694

01:16:50,570 --> 01:16:48,060

they just said it was one great ride so

1695

01:16:52,010 --> 01:16:50,580

I'm sure they're all excited uh number

1696

01:16:53,450 --> 01:16:52,020

one for the experience and the

1697

01:16:55,189 --> 01:16:53,460

accomplishments that they have but also

1698

01:16:57,470 --> 01:16:55,199

now they're back home they get to spend

1699

01:16:59,270 --> 01:16:57,480

time with friends and family they will

1700

01:17:00,590 --> 01:16:59,280

be helped onto a stretcher as we've seen

1701
01:17:02,750 --> 01:17:00,600
before

1702
01:17:05,030 --> 01:17:02,760
um just to help them get their land legs

1703
01:17:05,810 --> 01:17:05,040
back yeah absolutely

1704
01:17:10,010 --> 01:17:05,820
um

1705
01:17:13,850 --> 01:17:10,020
it will take about 25 minutes so we

1706
01:17:16,250 --> 01:17:13,860
heard uh let's see about two minutes ago

1707
01:17:19,729 --> 01:17:16,260
we heard that it will take about 25

1708
01:17:22,810 --> 01:17:19,739
minutes for the entire rigging process

1709
01:17:26,689 --> 01:17:22,820
to complete and to lift the capsule

1710
01:17:28,370 --> 01:17:26,699
onto the recovery vessel we can see

1711
01:17:31,610 --> 01:17:28,380
there on the right hand side of the

1712
01:17:32,930 --> 01:17:31,620
screen that rigging is in process the

1713
01:17:36,110 --> 01:17:32,940

left hand side of your screen of course

1714

01:17:38,570 --> 01:17:36,120

is a view inside Dragon capsule where

1715

01:17:41,209 --> 01:17:38,580

the crew is using those touchscreen

1716

01:17:43,970 --> 01:17:41,219

displays to monitor progress of

1717

01:17:47,390 --> 01:17:43,980

everything I imagine they can also hear

1718

01:17:50,270 --> 01:17:47,400

what's going on outside as well in terms

1719

01:17:51,709 --> 01:17:50,280

of the individual that is crawling

1720

01:17:56,689 --> 01:17:51,719

around on top

1721

01:18:02,630 --> 01:17:59,149

spend 15 minutes now since we had

1722

01:18:04,689 --> 01:18:02,640

splashed down uh 902 p.m eastern time

1723

01:18:07,669 --> 01:18:04,699

again off the coast of Tampa everything

1724

01:18:09,470 --> 01:18:07,679

uh was looking really nice tonight for

1725

01:18:11,209 --> 01:18:09,480

that on time splash down right on the

1726

01:18:13,550 --> 01:18:11,219

minute that's right we even had

1727

01:18:16,189 --> 01:18:13,560

acquisition of signal about a minute

1728

01:18:17,590 --> 01:18:16,199

earlier than originally anticipated but

1729

01:18:21,649 --> 01:18:17,600

as we said before

1730

01:18:23,870 --> 01:18:21,659

that's it's not an exact uh time that we

1731

01:18:26,630 --> 01:18:23,880

know it comes back so we were happy

1732

01:18:28,970 --> 01:18:26,640

certainly happy to hear Commander Nicole

1733

01:18:30,290 --> 01:18:28,980

Mann's Voice come through pretty loud

1734

01:18:32,750 --> 01:18:30,300

and clear

1735

01:18:35,750 --> 01:18:32,760

and of course these uh checks and and

1736

01:18:38,149 --> 01:18:35,760

the rigging and lifting Dragon itself

1737

01:18:39,649 --> 01:18:38,159

take time and and the teams are very

1738

01:18:41,630 --> 01:18:39,659

deliberate and take the time that they

1739

01:18:43,729 --> 01:18:41,640

need to make sure that everything is

1740

01:18:47,390 --> 01:18:43,739

done properly and safely but I do think

1741

01:18:49,490 --> 01:18:47,400

it's very uh impressive and and funny to

1742

01:18:52,790 --> 01:18:49,500

me that within two hours you can go from

1743

01:18:55,130 --> 01:18:52,800

being in space to already back on uh

1744

01:18:58,189 --> 01:18:55,140

back on lands on

1745

01:19:00,470 --> 01:18:58,199

the recovery ship it's it's faster than

1746

01:19:05,810 --> 01:19:00,480

my flight from California to Houston so

1747

01:19:12,530 --> 01:19:08,689

speaking of timelines it's also been

1748

01:19:14,689 --> 01:19:12,540

pretty incredible to see The Continuous

1749

01:19:17,630 --> 01:19:14,699

Improvement of the recovery process

1750

01:19:22,970 --> 01:19:17,640

itself so thinking back to the demo one

1751

01:19:26,510 --> 01:19:22,980

demo 2 missions where uh really that

1752

01:19:29,330 --> 01:19:26,520

process of of lifting the capsule out of

1753

01:19:31,490 --> 01:19:29,340

the water I forget how long it took the

1754

01:19:34,870 --> 01:19:31,500

first time we officially did it I think

1755

01:19:38,870 --> 01:19:34,880

it was about an hour and a half

1756

01:19:41,510 --> 01:19:38,880

and it's really well streamlined at this

1757

01:19:44,450 --> 01:19:41,520

point in time you know this is the the

1758

01:19:46,070 --> 01:19:44,460

fifth operational mission to the

1759

01:19:47,689 --> 01:19:46,080

International Space Station of course we

1760

01:19:50,630 --> 01:19:47,699

launched crew six but they're still up

1761

01:19:53,350 --> 01:19:50,640

there so this is the fifth one to

1762

01:19:57,410 --> 01:19:53,360

um to slash down and then plus demo two

1763

01:20:00,649 --> 01:19:57,420

with NASA astronauts Bob and Doug you

1764

01:20:02,990 --> 01:20:00,659

know our favorite space dads and uh it's

1765

01:20:05,330 --> 01:20:03,000

just been really cool to see how as The

1766

01:20:08,149 --> 01:20:05,340

SpaceX recovery teams have basically

1767

01:20:10,910 --> 01:20:08,159

iterated the process a number of times

1768

01:20:14,149 --> 01:20:10,920

not only with the actual Landings but

1769

01:20:18,050 --> 01:20:14,159

with practiced ones as well with a

1770

01:20:20,570 --> 01:20:18,060

Dragon capsule mock-up so it's pretty

1771

01:20:22,850 --> 01:20:20,580

cool to see how streamlined the the

1772

01:20:26,270 --> 01:20:22,860

operations have been and there we can

1773

01:20:29,030 --> 01:20:26,280

actually see our first good view of that

1774

01:20:32,110 --> 01:20:29,040

SpaceX recovery team member that is

1775

01:20:35,750 --> 01:20:32,120

climbing on board the Dragon capsule

1776

01:20:38,390 --> 01:20:35,760

this is exactly what they have to do in

1777

01:20:40,790 --> 01:20:38,400

order to place the harnesses and the

1778

01:20:42,890 --> 01:20:40,800

rigging and secure them those that

1779

01:20:45,709 --> 01:20:42,900

equipment of course is critical to the

1780

01:20:47,570 --> 01:20:45,719

lifting operation where we lift the

1781

01:20:49,669 --> 01:20:47,580

Dragon capsule out of the water and

1782

01:20:52,250 --> 01:20:49,679

place it onto the recovery vessels so

1783

01:20:55,910 --> 01:20:52,260

we'll be able to see this individual

1784

01:20:57,729 --> 01:20:55,920

move around almost in a spider monkey

1785

01:21:00,950 --> 01:20:57,739

like faction

1786

01:21:03,950 --> 01:21:00,960

with just such skill which is incredible

1787

01:21:05,390 --> 01:21:03,960

when you think about the fact that you

1788

01:21:07,870 --> 01:21:05,400

know they had to get in the water first

1789

01:21:11,510 --> 01:21:07,880

since I'm up to the capsule and so

1790

01:21:13,430 --> 01:21:11,520

their wetsuit is wet the parts of the

1791

01:21:16,430 --> 01:21:13,440

Dragon of the capsule itself are also

1792

01:21:18,950 --> 01:21:16,440

wet so it's not an easy job and they

1793

01:21:22,610 --> 01:21:18,960

undergo significant amounts of training

1794

01:21:25,130 --> 01:21:22,620

in order to perform this job not only

1795

01:21:28,250 --> 01:21:25,140

correctly but safely as well

1796

01:21:29,930 --> 01:21:28,260

and this was a role a similar role also

1797

01:21:32,090 --> 01:21:29,940

existed during Apollo those were also

1798

01:21:34,130 --> 01:21:32,100

obviously splashed on missions uh those

1799

01:21:35,810 --> 01:21:34,140

were called frogmen and so they would

1800

01:21:39,110 --> 01:21:35,820

make sure that the capsule was secured

1801
01:21:41,630 --> 01:21:39,120
before it was brought into the recovery

1802
01:21:43,790 --> 01:21:41,640
vessel speaking of recovery vessel as we

1803
01:21:46,729 --> 01:21:43,800
mentioned we have uh several team

1804
01:21:48,350 --> 01:21:46,739
members that are monitoring and

1805
01:21:50,810 --> 01:21:48,360
assisting with different roles whether

1806
01:21:54,169 --> 01:21:50,820
that is to help with medical checks or

1807
01:21:56,570 --> 01:21:54,179
to bring the crew Dragon back into the

1808
01:21:58,669 --> 01:21:56,580
ship itself we also have my colleague

1809
01:22:01,310 --> 01:21:58,679
NASA public affairs officer Chelsea

1810
01:22:03,950 --> 01:22:01,320
ballarte who is on the ship and she is

1811
01:22:06,169 --> 01:22:03,960
standing by on the phone to give us an

1812
01:22:08,810 --> 01:22:06,179
update so Chelsea tell us what it's like

1813
01:22:11,870 --> 01:22:08,820

what the teams are doing right now and

1814

01:22:15,830 --> 01:22:11,880

if you were able to see crew dragon as

1815

01:22:21,470 --> 01:22:18,050

hey Leah how do you hear me loud and

1816

01:22:28,550 --> 01:22:24,950

oh my gosh well hello Ahoy from the SS

1817

01:22:32,270 --> 01:22:30,470

welcome I'm so glad that you were able

1818

01:22:34,310 --> 01:22:32,280

to join us so tell us what the team

1819

01:22:39,250 --> 01:22:34,320

members are doing right now to prepare

1820

01:22:44,689 --> 01:22:42,050

absolutely so let us let me walk us back

1821

01:22:47,330 --> 01:22:44,699

a couple of just minutes ago as the true

1822

01:22:50,149 --> 01:22:47,340

Dragon came down we went to the tip top

1823

01:22:52,970 --> 01:22:50,159

of this boat on a helicopter path to get

1824

01:22:55,610 --> 01:22:52,980

a view the boat lights turned completely

1825

01:22:58,669 --> 01:22:55,620

off you could see every star in the sky

1826

01:23:01,189 --> 01:22:58,679

that's how dark it was and all of a

1827

01:23:04,310 --> 01:23:01,199

sudden you see the brightest shooting

1828

01:23:07,250 --> 01:23:04,320

star you ever saw in your life pointing

1829

01:23:10,010 --> 01:23:07,260

down at Earth and I was amazed how

1830

01:23:12,410 --> 01:23:10,020

quickly after those parachutes deployed

1831

01:23:16,070 --> 01:23:12,420

the shooting star went away and it just

1832

01:23:19,310 --> 01:23:16,080

became another dot in the sky among a

1833

01:23:21,110 --> 01:23:19,320

sea of stars but this boat had and

1834

01:23:24,229 --> 01:23:21,120

several other boats in the area turned

1835

01:23:27,470 --> 01:23:24,239

on their spotlights they had a drone

1836

01:23:30,229 --> 01:23:27,480

pointed at it so you always knew where

1837

01:23:32,149 --> 01:23:30,239

the where the dragon was even though to

1838

01:23:34,010 --> 01:23:32,159

me it just looked like another dot so

1839

01:23:35,209 --> 01:23:34,020

they were very quick to locate the

1840

01:23:37,669 --> 01:23:35,219

spacecraft

1841

01:23:39,950 --> 01:23:37,679

in the sky as it came down

1842

01:23:42,950 --> 01:23:39,960

I had my eyes on Dragon just a minute

1843

01:23:44,930 --> 01:23:42,960

ago the boat the SS Shannon right now is

1844

01:23:46,790 --> 01:23:44,940

is turning to get into a configuration

1845

01:23:54,430 --> 01:23:46,800

now that we know that we're safe from

1846

01:24:00,350 --> 01:23:57,770

see it with your own eyes

1847

01:24:02,330 --> 01:24:00,360

yes that's amazing Just In Space moments

1848

01:24:04,310 --> 01:24:02,340

ago and now we are getting views from

1849

01:24:06,709 --> 01:24:04,320

the recovery ship as well we can see it

1850

01:24:08,330 --> 01:24:06,719

uh backing up towards the spacecraft we

1851

01:24:11,209 --> 01:24:08,340

also had great views coming from the

1852

01:24:14,930 --> 01:24:11,219

ships during that descent uh so can you

1853

01:24:16,729 --> 01:24:14,940

tell us uh what's next for the teams and

1854

01:24:30,709 --> 01:24:16,739

what's next for you and the other

1855

01:24:35,630 --> 01:24:32,930

but we may have lost communication with

1856

01:24:37,790 --> 01:24:35,640

Chelsea but what an experience to be

1857

01:24:39,890 --> 01:24:37,800

able to be there and see it I'm very

1858

01:24:41,630 --> 01:24:39,900

fortunate enough to have shared that

1859

01:24:43,850 --> 01:24:41,640

experience I was going to say I think I

1860

01:24:45,950 --> 01:24:43,860

recall whenever you were the person on

1861

01:24:47,510 --> 01:24:45,960

the phone yes it was it was absolutely

1862

01:24:49,010 --> 01:24:47,520

incredible she's right it's like a

1863

01:24:50,810 --> 01:24:49,020

shooting star

1864

01:24:52,850 --> 01:24:50,820

um and great to hear you know that

1865

01:24:54,649 --> 01:24:52,860

things have been going well on the the

1866

01:24:56,149 --> 01:24:54,659

ship so far as she mentioned we were

1867

01:24:57,709 --> 01:24:56,159

seeing those

1868

01:24:59,689 --> 01:24:57,719

um it looked like strobe lights almost

1869

01:25:01,669 --> 01:24:59,699

but those were the spotlights tracking

1870

01:25:04,189 --> 01:25:01,679

crew dragon as it continued its descent

1871

01:25:06,229 --> 01:25:04,199

so yes they had great uh coverage of

1872

01:25:09,590 --> 01:25:06,239

that the entire time

1873

01:25:13,010 --> 01:25:09,600

so we have a great view here of dragon

1874

01:25:15,649 --> 01:25:13,020

endurance there with the crew 5 crew

1875

01:25:17,990 --> 01:25:15,659

still in their seats strapped in

1876

01:25:19,850 --> 01:25:18,000

um kind of like that part of the roller

1877

01:25:22,250 --> 01:25:19,860

coaster after it ends you still have to

1878

01:25:26,510 --> 01:25:22,260

stay in your chair until the attendants

1879

01:25:29,149 --> 01:25:26,520

give you the okay and lift the the bar

1880

01:25:31,010 --> 01:25:29,159

um so that that keeps you in so yeah we

1881

01:25:33,530 --> 01:25:31,020

can see that that recovery team in the

1882

01:25:36,290 --> 01:25:33,540

water if you look closely you can see

1883

01:25:40,250 --> 01:25:36,300

some of those harnesses hanging there in

1884

01:25:42,290 --> 01:25:40,260

front of the side hatch we can see the

1885

01:25:45,590 --> 01:25:42,300

recovery team members

1886

01:25:47,870 --> 01:25:45,600

on Shannon there near the nest

1887

01:25:53,030 --> 01:25:47,880

um that they're also preparing that

1888

01:25:55,490 --> 01:25:53,040

landing area so the part of the the ship

1889

01:25:57,890 --> 01:25:55,500

um that arches above where those crew

1890

01:26:01,729 --> 01:25:57,900

members are standing uh that will

1891

01:26:03,830 --> 01:26:01,739

actually actuate outward and

1892

01:26:07,010 --> 01:26:03,840

um that will be the part that lifts the

1893

01:26:09,649 --> 01:26:07,020

Dragon capsule out of the water and it

1894

01:26:11,390 --> 01:26:09,659

will basically bring it right over where

1895

01:26:13,070 --> 01:26:11,400

that Nest is

1896

01:26:14,750 --> 01:26:13,080

um and it will be the Dragon capsule

1897

01:26:19,189 --> 01:26:14,760

will be set down on that nest and then

1898

01:26:20,510 --> 01:26:19,199

that Nest will then be pulled forward so

1899

01:26:23,149 --> 01:26:20,520

kind of like if you think of yourself

1900

01:26:25,209 --> 01:26:23,159

like that Nestle being will be pulled in

1901

01:26:27,830 --> 01:26:25,219

the direction of you as the viewer

1902

01:26:30,110 --> 01:26:27,840

toward the forward end of the boat and

1903

01:26:32,510 --> 01:26:30,120

that is of course where the side hatch

1904

01:26:34,430 --> 01:26:32,520

will be opened and the crew will egress

1905

01:26:37,430 --> 01:26:34,440

uh they're using that side hatch now

1906

01:26:41,209 --> 01:26:37,440

when that side hatch is is opened this

1907

01:26:44,590 --> 01:26:41,219

will be the first time that the crew uh

1908

01:26:48,490 --> 01:26:44,600

inside the dry Dragon capsule has

1909

01:26:52,310 --> 01:26:48,500

basically breathed Earthly Earthly air

1910

01:26:54,290 --> 01:26:52,320

in 157 days it's the first time that

1911

01:26:55,850 --> 01:26:54,300

that side hatch will have been opened of

1912

01:26:57,290 --> 01:26:55,860

course the last time it was open was

1913

01:26:58,970 --> 01:26:57,300

launch day

1914

01:27:01,610 --> 01:26:58,980

um and that side hatch was closed in

1915

01:27:03,350 --> 01:27:01,620

preparation for launch and then while

1916

01:27:05,510 --> 01:27:03,360

they are on station they use the forward

1917

01:27:07,790 --> 01:27:05,520

Hatcher the the hatch that is underneath

1918

01:27:10,790 --> 01:27:07,800

the nose cone there which is the pointy

1919

01:27:12,410 --> 01:27:10,800

end of the Dragon capsule so it's I

1920

01:27:14,629 --> 01:27:12,420

always love seeing that hatch reopened

1921

01:27:17,450 --> 01:27:14,639

because it's it's a very nice bookend in

1922

01:27:18,950 --> 01:27:17,460

terms of when that hatch was last closed

1923

01:27:20,590 --> 01:27:18,960

that was the day that they went to space

1924

01:27:22,550 --> 01:27:20,600

and today's the day that they came home

1925

01:27:25,250 --> 01:27:22,560

absolutely and that Journey beginning

1926

01:27:27,950 --> 01:27:25,260

back in October and ending just 25

1927

01:27:30,290 --> 01:27:27,960

minutes ago an on-time Splashdown at 902

1928

01:27:33,050 --> 01:27:30,300

PM Eastern and everything is really

1929

01:27:34,850 --> 01:27:33,060

moving along with the timeline ideally

1930

01:27:37,370 --> 01:27:34,860

you know the recovery ship arrives about

1931

01:27:39,649 --> 01:27:37,380

30 minutes after Splashdown and here we

1932

01:27:41,870 --> 01:27:39,659

are almost ready to complete that

1933

01:27:45,470 --> 01:27:41,880

rigging process you can see that team

1934

01:27:47,510 --> 01:27:45,480

members still on the capsule itself and

1935

01:27:49,370 --> 01:27:47,520

they will again as you mentioned lift

1936

01:27:51,470 --> 01:27:49,380

that and place it in the nest and the

1937

01:27:54,890 --> 01:27:51,480

platform that the astronauts egress on

1938

01:27:57,050 --> 01:27:54,900

is built up a little bit because the

1939

01:28:00,410 --> 01:27:57,060

side hatch is about halfway up the

1940

01:28:02,270 --> 01:28:00,420

capsule itself so they will egress to

1941

01:28:04,430 --> 01:28:02,280

that be taken out for some routine

1942

01:28:07,550 --> 01:28:04,440

medical checks then eventually they will

1943

01:28:10,189 --> 01:28:07,560

board a helicopter tonight just within

1944

01:28:12,110 --> 01:28:10,199

um within a couple of hours of splashing

1945

01:28:14,390 --> 01:28:12,120

down that will take them back to Florida

1946

01:28:17,330 --> 01:28:14,400

before they fly back to Houston and

1947

01:28:18,470 --> 01:28:17,340

anakikina will also fly back to Russia

1948

01:28:19,910 --> 01:28:18,480

yeah

1949

01:28:21,770 --> 01:28:19,920

so we're getting to the point in time

1950

01:28:22,790 --> 01:28:21,780

where oh there we can see that lifting

1951

01:28:26,209 --> 01:28:22,800

arm

1952

01:28:27,189 --> 01:28:26,219

um being moved into the recovery

1953

01:28:29,209 --> 01:28:27,199

position

1954

01:28:30,890 --> 01:28:29,219

everything's going to move pretty quick

1955

01:28:33,890 --> 01:28:30,900

at this point in time

1956

01:28:37,850 --> 01:28:33,900

um the the capsule will be in that Nest

1957

01:28:40,970 --> 01:28:37,860

much faster than you think it will be we

1958

01:28:43,310 --> 01:28:40,980

can see that recovery team member that

1959

01:28:45,649 --> 01:28:43,320

was in charge of securing all the

1960

01:28:48,169 --> 01:28:45,659

harnesses and the rigging still on the

1961

01:28:51,350 --> 01:28:48,179

capsule we should see them jumping off

1962

01:28:53,270 --> 01:28:51,360

and back into the water and momentarily

1963

01:28:55,910 --> 01:28:53,280

that will be a good sign to indicate

1964

01:28:57,229 --> 01:28:55,920

that all those harnesses are secure and

1965

01:28:58,729 --> 01:28:57,239

in place

1966

01:29:01,669 --> 01:28:58,739

although I imagine it would be kind of

1967

01:29:03,890 --> 01:29:01,679

fun to um ride dragon as it gets lifted

1968

01:29:06,470 --> 01:29:03,900

out of the water but certainly not not

1969

01:29:08,689 --> 01:29:06,480

safe so we won't be doing that and when

1970

01:29:10,970 --> 01:29:08,699

they lift Dragon it's also very stable

1971

01:29:12,169 --> 01:29:10,980

the entire time it's not swinging around

1972

01:29:15,890 --> 01:29:12,179

a lot because there are those different

1973

01:29:17,629 --> 01:29:15,900

attachment points that make it very uh

1974

01:29:19,430 --> 01:29:17,639

very stable for the crew members coming

1975

01:29:21,770 --> 01:29:19,440

out of the water and being placed on the

1976

01:29:24,530 --> 01:29:21,780

recovery ship

1977

01:29:26,390 --> 01:29:24,540

yeah of course the the motion of the

1978

01:29:28,189 --> 01:29:26,400

Waves creating a lot of that movement

1979

01:29:31,030 --> 01:29:28,199

and there we can see that recovery team

1980

01:29:33,530 --> 01:29:31,040

member jumping off back into the water

1981

01:29:36,470 --> 01:29:33,540

so at this point in time it's a great

1982

01:29:39,649 --> 01:29:36,480

sign uh we should uh hear a call out

1983

01:29:41,689 --> 01:29:39,659

soon or or perhaps just see it first of

1984

01:29:43,550 --> 01:29:41,699

the capsule being lifted out of the

1985

01:29:45,890 --> 01:29:43,560

water again this will happen quite

1986

01:29:45,900 --> 01:29:52,070

drag Embrace for capsule lift

1987

01:29:52,080 --> 01:29:55,550

thank you

1988

01:29:59,750 --> 01:29:57,590

and as the capsule is being lifted

1989

01:30:02,930 --> 01:29:59,760

there's our first view of that heat

1990

01:30:05,570 --> 01:30:02,940

shield once again that was the the

1991

01:30:07,729 --> 01:30:05,580

primary decelerator for the Dragon

1992

01:30:10,430 --> 01:30:07,739

capsule that's really what helps load

1993

01:30:14,030 --> 01:30:10,440

the vehicle down uh to about 350 miles

1994

01:30:17,149 --> 01:30:14,040

per hour from 17 500 of course during

1995

01:30:18,590 --> 01:30:17,159

that re-entry burn that we saw

1996

01:30:21,229 --> 01:30:18,600

um

1997

01:30:23,510 --> 01:30:21,239

certainly did its job yeah bringing them

1998

01:30:25,669 --> 01:30:23,520

to that gentle Splashdown with the help

1999

01:30:28,010 --> 01:30:25,679

of those parachutes about 16 miles per

2000

01:30:32,390 --> 01:30:30,410

so they are they have obviously lifted

2001
01:30:34,850 --> 01:30:32,400
Dragon they are placing it in that Nest

2002
01:30:37,010 --> 01:30:34,860
they'll secure it there and and remove

2003
01:30:40,310 --> 01:30:37,020
some of those attachment points before

2004
01:30:42,530 --> 01:30:40,320
moving it toward the egress platform now

2005
01:30:44,689 --> 01:30:42,540
we can see some Waters

2006
01:30:46,970 --> 01:30:44,699
um held in what looks like a kind of

2007
01:30:50,870 --> 01:30:46,980
like a bucketed area there underneath

2008
01:30:53,390 --> 01:30:50,880
the side hatch that is the location of

2009
01:30:55,430 --> 01:30:53,400
where the main parachutes are stored so

2010
01:30:57,229 --> 01:30:55,440
all four of those main parachutes are

2011
01:31:00,110 --> 01:30:57,239
tightly packed

2012
01:31:00,950 --> 01:31:00,120
um and and placed in that

2013
01:31:02,930 --> 01:31:00,960

um

2014

01:31:06,169 --> 01:31:02,940

tubby basically and we can see water

2015

01:31:09,530 --> 01:31:06,179

draining from it now the location of the

2016

01:31:12,709 --> 01:31:09,540

droke parachutes is up near where that

2017

01:31:15,950 --> 01:31:12,719

harness is secured above the

2018

01:31:17,930 --> 01:31:15,960

um above the side hatch there at the top

2019

01:31:20,629 --> 01:31:17,940

and it's always interesting for me to

2020

01:31:21,530 --> 01:31:20,639

see those attachment points because you

2021

01:31:24,530 --> 01:31:21,540

know

2022

01:31:26,629 --> 01:31:24,540

before seeing these missions or before

2023

01:31:28,790 --> 01:31:26,639

working at Nasa you would always assume

2024

01:31:31,430 --> 01:31:28,800

that the parachutes would just come from

2025

01:31:35,450 --> 01:31:31,440

the top of this business so not always

2026

01:31:42,470 --> 01:31:37,370

looks like dragon is

2027

01:31:47,330 --> 01:31:44,570

again things moving along pretty quickly

2028

01:31:50,270 --> 01:31:47,340

a few minutes ahead of the ideal

2029

01:31:52,430 --> 01:31:50,280

timeline here now just 30 minutes since

2030

01:31:55,250 --> 01:31:52,440

Splashdown and we already have the

2031

01:31:56,990 --> 01:31:55,260

spacecraft on the recovery vessel again

2032

01:32:00,530 --> 01:31:57,000

this one this recovery vessel being

2033

01:32:02,870 --> 01:32:00,540

named Shannon after Shannon Walker

2034

01:32:05,270 --> 01:32:02,880

Dragon welcome aboard the recovery

2035

01:32:07,910 --> 01:32:05,280

vessel recovery Personnel are completing

2036

01:32:16,430 --> 01:32:07,920

final checks standby for translation to

2037

01:32:24,229 --> 01:32:20,169

so at this point in time the crew 5

2038

01:32:27,169 --> 01:32:24,239

crew members are feeling

2039

01:32:29,390 --> 01:32:27,179

a different sensation now so when they

2040

01:32:31,669 --> 01:32:29,400

splash down of course they're greeted

2041

01:32:33,410 --> 01:32:31,679

with gravity once again but there was an

2042

01:32:35,149 --> 01:32:33,420

additional sensation of being in the

2043

01:32:37,370 --> 01:32:35,159

water and now that they are on the

2044

01:32:39,050 --> 01:32:37,380

recovery vessel it is clearly more

2045

01:32:42,430 --> 01:32:39,060

secure than that

2046

01:32:45,590 --> 01:32:42,440

or not more secure less a lot less

2047

01:32:46,970 --> 01:32:45,600

motion than being in the water of course

2048

01:32:49,070 --> 01:32:46,980

they're still in a boat through there's

2049

01:32:52,129 --> 01:32:49,080

a little bit

2050

01:32:54,590 --> 01:32:52,139

yeah and after uh after these

2051
01:32:56,030 --> 01:32:54,600
connection lines are removed we'll be

2052
01:32:58,070 --> 01:32:56,040
looking forward to hatch opening of

2053
01:33:00,649 --> 01:32:58,080
course we have to move the dragon to

2054
01:33:03,770 --> 01:33:00,659
that egress platform first but Dragon

2055
01:33:06,649 --> 01:33:03,780
will stay in this hatch or in this Nest

2056
01:33:08,990 --> 01:33:06,659
I should say until

2057
01:33:11,270 --> 01:33:09,000
uh it returns to Port so while the

2058
01:33:13,250 --> 01:33:11,280
astronauts will be flown back to Earth

2059
01:33:15,950 --> 01:33:13,260
or they're on Earth but once they are

2060
01:33:17,629 --> 01:33:15,960
flown back to Solid Ground tonight it

2061
01:33:20,209 --> 01:33:17,639
does take a little bit of a journey for

2062
01:33:21,410 --> 01:33:20,219
the spacecraft itself to make it back to

2063
01:33:24,530 --> 01:33:21,420

port and it's going to remain in that

2064

01:33:29,870 --> 01:33:27,229

so following along with the recovery

2065

01:33:32,330 --> 01:33:29,880

procedures we're looking at roughly five

2066

01:33:34,310 --> 01:33:32,340

five to six minutes until we get that

2067

01:33:36,590 --> 01:33:34,320

side hatch open

2068

01:33:37,310 --> 01:33:36,600

um once again assuming that

2069

01:33:41,030 --> 01:33:37,320

um

2070

01:33:43,010 --> 01:33:41,040

the all the checkouts of course the uh

2071

01:33:47,030 --> 01:33:43,020

the the capsule the Dragon capsule

2072

01:33:48,950 --> 01:33:47,040

itself is equalizing the pressure inside

2073

01:33:51,649 --> 01:33:48,960

to match

2074

01:33:53,090 --> 01:33:51,659

the pressure outside as well

2075

01:33:54,950 --> 01:33:53,100

um

2076

01:33:57,110 --> 01:33:54,960

and ultimately the crew is just

2077

01:33:59,450 --> 01:33:57,120

continuing to monitor the progress

2078

01:34:02,030 --> 01:33:59,460

they're using those screens in front of

2079

01:34:04,129 --> 01:34:02,040

them but they remain comfortable in

2080

01:34:06,470 --> 01:34:04,139

their seats we continue to flow that

2081

01:34:08,270 --> 01:34:06,480

nitrox air through the suits in order to

2082

01:34:10,070 --> 01:34:08,280

keep them comfortable

2083

01:34:12,530 --> 01:34:10,080

um of course I always like to say that

2084

01:34:15,410 --> 01:34:12,540

that air is the same stuff that scuba

2085

01:34:17,870 --> 01:34:15,420

divers use to uh you know in their

2086

01:34:19,490 --> 01:34:17,880

breathing equipment so that cooled air

2087

01:34:22,129 --> 01:34:19,500

is certainly

2088

01:34:24,050 --> 01:34:22,139

um an additional piece of comfort for

2089

01:34:26,030 --> 01:34:24,060

the crew during this this process

2090

01:34:28,729 --> 01:34:26,040

because as we said before right now

2091

01:34:32,450 --> 01:34:28,739

there's nothing for them to do but uh

2092

01:34:35,450 --> 01:34:32,460

patiently wait for the for that uh for

2093

01:34:38,270 --> 01:34:35,460

the translation of the Dragon capsule

2094

01:34:40,490 --> 01:34:38,280

into that four more forward position as

2095

01:34:44,689 --> 01:34:40,500

Leo was talking about where we will be

2096

01:34:48,590 --> 01:34:46,610

and again obviously we've got Dragon

2097

01:34:50,510 --> 01:34:48,600

Endurance on the left and that view on

2098

01:34:52,550 --> 01:34:50,520

the right coming from inside the

2099

01:34:55,790 --> 01:34:52,560

spacecraft itself

2100

01:34:58,550 --> 01:34:55,800

our four crew five members

2101
01:35:00,290 --> 01:34:58,560
as you mentioned patiently waiting no

2102
01:35:03,590 --> 01:35:00,300
action on their part

2103
01:35:05,810 --> 01:35:03,600
just continuing to Monitor and as they

2104
01:35:07,490 --> 01:35:05,820
are now aboard recovery vessel Shannon

2105
01:35:09,470 --> 01:35:07,500
like I said this is named Dr Shannon

2106
01:35:11,689 --> 01:35:09,480
Walker NASA astronaut who flew on the

2107
01:35:14,990 --> 01:35:11,699
crew One mission there's also another

2108
01:35:30,709 --> 01:35:15,000
SpaceX recovery ship named Megan after

2109
01:35:37,729 --> 01:35:33,709
so once again we're standing by for the

2110
01:35:40,910 --> 01:35:37,739
capsule for that forward translation to

2111
01:35:43,370 --> 01:35:40,920
the egress platform which is where we

2112
01:35:48,709 --> 01:35:43,380
will be able to open Dragon side hatch

2113
01:35:52,430 --> 01:35:50,629

and as we've mentioned tonight the crew

2114

01:35:54,649 --> 01:35:52,440

will board a helicopter that lands on

2115

01:35:57,770 --> 01:35:54,659

that helipad where Chelsea was talking

2116

01:35:59,530 --> 01:35:57,780

about watching Splashdown from they will

2117

01:36:03,050 --> 01:35:59,540

be transported back to shore tonight

2118

01:36:05,030 --> 01:36:03,060

additionally along with them there will

2119

01:36:08,330 --> 01:36:05,040

be a couple of more helicopters that

2120

01:36:10,550 --> 01:36:08,340

take off and take some of the additional

2121

01:36:12,610 --> 01:36:10,560

visiting Personnel including Chelsea who

2122

01:36:15,110 --> 01:36:12,620

gave us the report from the boat

2123

01:36:19,330 --> 01:36:15,120

and not only people but they're also

2124

01:36:22,669 --> 01:36:19,340

taking some time critical science some

2125

01:36:25,550 --> 01:36:22,679

samples from the astronauts themselves

2126
01:36:28,189 --> 01:36:25,560
they'll return those extremely quickly

2127
01:36:30,890 --> 01:36:28,199
to the scientists on Earth and there we

2128
01:36:34,790 --> 01:36:30,900
can see that Dragon endurance is now

2129
01:36:37,370 --> 01:36:34,800
making its way to the egress platform

2130
01:36:42,110 --> 01:36:37,380
with that forward translation of the

2131
01:36:46,490 --> 01:36:43,850
slow and steady but this is the last

2132
01:36:53,990 --> 01:36:46,500
major move for Dragon after this we will

2133
01:36:58,070 --> 01:36:55,729
there you can see that platform I've

2134
01:36:59,390 --> 01:36:58,080
been discussing uh just behind it is a

2135
01:37:01,970 --> 01:36:59,400
little hallway there's some medical

2136
01:37:05,530 --> 01:37:01,980
checkout rooms for the crew members to

2137
01:37:08,629 --> 01:37:05,540
get those as I mentioned very uh nominal

2138
01:37:11,030 --> 01:37:08,639

uh and very planned medical checkouts

2139

01:37:13,729 --> 01:37:11,040

now that they're back on Earth

2140

01:37:18,229 --> 01:37:13,739

we were able to see the recovery team

2141

01:37:21,169 --> 01:37:18,239

hosing the capsule down we're using

2142

01:37:23,990 --> 01:37:21,179

fresh water to do that of course to help

2143

01:37:26,330 --> 01:37:24,000

minimize any corrosion to the capsule as

2144

01:37:28,870 --> 01:37:26,340

we do reuse these so basically just

2145

01:37:32,330 --> 01:37:28,880

trying to give it a freshwater bath

2146

01:37:35,330 --> 01:37:32,340

as it is on the deck we're also able to

2147

01:37:38,390 --> 01:37:35,340

see that the recovery team on the

2148

01:37:41,030 --> 01:37:38,400

platform has their personal respirators

2149

01:37:45,169 --> 01:37:41,040

or breathers they are going to do an

2150

01:37:48,169 --> 01:37:45,179

additional hyper Gull sweep that is to

2151
01:37:53,330 --> 01:37:48,179
uh basically triple check that there are

2152
01:37:55,790 --> 01:37:53,340
no fumes for the mmh or nto that

2153
01:37:58,729 --> 01:37:55,800
monomethyl hydrazine and nitrogen

2154
01:38:01,669 --> 01:37:58,739
tetroxide those are the propellants that

2155
01:38:06,110 --> 01:38:01,679
are on board the Dragon capsule for its

2156
01:38:08,570 --> 01:38:06,120
on orbit propulsion system and they are

2157
01:38:10,729 --> 01:38:08,580
not fumes that are you're able to

2158
01:38:13,250 --> 01:38:10,739
breathe they're quite toxic to people so

2159
01:38:21,470 --> 01:38:13,260
we'll see them perform an additional

2160
01:38:26,570 --> 01:38:23,930
so once we do open the hatch the first

2161
01:38:28,550 --> 01:38:26,580
smiling face that Nicole joshuichi and

2162
01:38:31,070 --> 01:38:28,560
Anna will see will be a SpaceX medical

2163
01:38:33,890 --> 01:38:31,080

doctor just to check on them ready to

2164

01:38:35,930 --> 01:38:33,900

see if they are ready for egress we hope

2165

01:38:38,270 --> 01:38:35,940

to get some views shortly thereafter of

2166

01:38:40,910 --> 01:38:38,280

our crew members and here is a great

2167

01:38:43,070 --> 01:38:40,920

view of the hatch itself again next

2168

01:38:46,669 --> 01:38:43,080

major Milestone will be for hatch open

2169

01:38:49,370 --> 01:38:46,679

absolutely so as we mentioned before uh

2170

01:38:51,290 --> 01:38:49,380

while dragon's top hatch is what is used

2171

01:38:53,450 --> 01:38:51,300

to connect to the space station or the

2172

01:38:55,189 --> 01:38:53,460

forward hatch the astronauts are going

2173

01:38:56,770 --> 01:38:55,199

to egress from that hatch right there

2174

01:38:59,870 --> 01:38:56,780

that's the side hatch

2175

01:39:03,470 --> 01:38:59,880

and before opening the hatch the

2176
01:39:05,870 --> 01:39:03,480
spacecraft's cabin pressure is equalized

2177
01:39:11,810 --> 01:39:05,880
with the outside environment then once

2178
01:39:17,330 --> 01:39:14,750
that will be the crew's first breath of

2179
01:39:19,370 --> 01:39:17,340
uh fresh Earthly air since boarding

2180
01:39:22,129 --> 01:39:19,380
Dragon at the start of their mission

2181
01:39:25,370 --> 01:39:22,139
back in October

2182
01:39:27,350 --> 01:39:25,380
now right here you can see uh SpaceX

2183
01:39:30,890 --> 01:39:27,360
crew members we also have some NASA crew

2184
01:39:32,030 --> 01:39:30,900
members on the spacecraft itself are on

2185
01:39:34,070 --> 01:39:32,040
the um

2186
01:39:35,530 --> 01:39:34,080
on the recovery ship itself they are on

2187
01:39:38,750 --> 01:39:35,540
the spacecraft too

2188
01:39:41,930 --> 01:39:38,760

but uh letting these SpaceX teams take

2189

01:39:43,910 --> 01:39:41,940

care of preparing Dragon for hatch open

2190

01:39:46,010 --> 01:39:43,920

and once that happens it's important to

2191

01:39:47,750 --> 01:39:46,020

note again Nicole joshuichi and Anna

2192

01:39:49,310 --> 01:39:47,760

will be getting that assistance from the

2193

01:39:52,129 --> 01:39:49,320

recovery teams when they're exiting the

2194

01:39:53,870 --> 01:39:52,139

capsule it is the same process for any

2195

01:39:55,610 --> 01:39:53,880

returning long duration crew members

2196

01:39:58,610 --> 01:39:55,620

because returning to a gravity

2197

01:39:59,990 --> 01:39:58,620

environment can challenge our vestibular

2198

01:40:02,090 --> 01:40:00,000

system that's responsible for

2199

01:40:03,649 --> 01:40:02,100

maintaining our balance and motion and

2200

01:40:05,629 --> 01:40:03,659

of course safety is always the number

2201
01:40:08,149 --> 01:40:05,639
one priority with this operation so

2202
01:40:10,250 --> 01:40:08,159
you'll see Nicole Josh koichi and Anna

2203
01:40:11,870 --> 01:40:10,260
helped out of the capsule assisted a few

2204
01:40:13,430 --> 01:40:11,880
feet to the medical corridors aboard the

2205
01:40:15,669 --> 01:40:13,440
boat and if you've ever watched Cruise

2206
01:40:18,950 --> 01:40:15,679
return on a soyuz or even previously

2207
01:40:21,050 --> 01:40:18,960
with dragon this is the same process as

2208
01:40:23,570 --> 01:40:21,060
when they are carried from the capsule

2209
01:40:25,070 --> 01:40:23,580
to waiting chairs and then for in the

2210
01:40:26,270 --> 01:40:25,080
case of a soyuz there's a waiting

2211
01:40:28,490 --> 01:40:26,280
medical tent

2212
01:40:29,990 --> 01:40:28,500
and then as I mentioned earlier this is

2213
01:40:32,330 --> 01:40:30,000

also the time period where that time

2214

01:40:34,370 --> 01:40:32,340

critical cargo can be recovered from the

2215

01:40:35,750 --> 01:40:34,380

spacecraft with the remainder waiting

2216

01:40:38,149 --> 01:40:35,760

until the ship is back and forth but

2217

01:40:40,370 --> 01:40:38,159

some of those cold stowage items they're

2218

01:40:43,250 --> 01:40:40,380

able to get that back to the

2219

01:40:45,410 --> 01:40:43,260

investigators and the researchers as

2220

01:40:47,510 --> 01:40:45,420

soon as tonight they're able to analyze

2221

01:40:49,370 --> 01:40:47,520

that and then once the ship and the

2222

01:40:50,870 --> 01:40:49,380

capsule return the recovery team will

2223

01:40:53,629 --> 01:40:50,880

perform some additional inspections

2224

01:40:55,610 --> 01:40:53,639

before loading Dragon onto a flatbed

2225

01:40:58,070 --> 01:40:55,620

truck at the SpaceX facility in Cape

2226

01:41:03,770 --> 01:40:58,080

Canaveral for post processing and of

2227

01:41:09,169 --> 01:41:05,930

so we're about five or six minutes away

2228

01:41:12,890 --> 01:41:09,179

from crew egress

2229

01:41:15,890 --> 01:41:12,900

we can see that the personal protective

2230

01:41:17,810 --> 01:41:15,900

equipment Dragon stand by for a side

2231

01:41:20,930 --> 01:41:17,820

hatch opening and approximately the next

2232

01:41:20,940 --> 01:41:25,729

we're looking at Rick right now

2233

01:41:32,810 --> 01:41:29,629

so we can see that those uh

2234

01:41:36,590 --> 01:41:32,820

and there it is side hatch open

2235

01:41:39,050 --> 01:41:36,600

on Dragon endurance

2236

01:41:41,689 --> 01:41:39,060

first time since it was closed last

2237

01:41:43,070 --> 01:41:41,699

October sending these four crew members

2238

01:41:45,470 --> 01:41:43,080

on their Journey to the International

2239

01:41:46,910 --> 01:41:45,480

Space Station and in that view on the

2240

01:41:49,250 --> 01:41:46,920

right you can see that SpaceX medical

2241

01:41:51,290 --> 01:41:49,260

doctor getting that first check making

2242

01:41:54,590 --> 01:41:51,300

sure everyone is feeling all right back

2243

01:41:56,330 --> 01:41:54,600

here on planet Earth before we begin uh

2244

01:41:58,430 --> 01:41:56,340

helping those crew members out of the

2245

01:42:00,350 --> 01:41:58,440

capsule on the left hand side of the

2246

01:42:03,290 --> 01:42:00,360

screen we can see the recovery team

2247

01:42:06,290 --> 01:42:03,300

members placing a protective frame

2248

01:42:09,229 --> 01:42:06,300

around the interior of the hatch as I

2249

01:42:11,629 --> 01:42:09,239

mentioned before of course we reuse our

2250

01:42:13,729 --> 01:42:11,639

Dragon capsules and so really to

2251

01:42:16,250 --> 01:42:13,739

preserve the Integrity of that hatch

2252

01:42:19,189 --> 01:42:16,260

which of course is important we put some

2253

01:42:21,950 --> 01:42:19,199

protective framing around there to help

2254

01:42:24,770 --> 01:42:21,960

us help make sure that there is no

2255

01:42:27,410 --> 01:42:24,780

damage incurred to the side hatch as the

2256

01:42:32,209 --> 01:42:27,420

the as the crew members are exiting or

2257

01:42:36,050 --> 01:42:34,850

still able to get some uh some notes

2258

01:42:38,510 --> 01:42:36,060

from Chelsea she said there's a big

2259

01:42:41,990 --> 01:42:38,520

round of applause on the recovery vessel

2260

01:42:46,310 --> 01:42:44,629

a really great moment

2261

01:42:49,250 --> 01:42:46,320

really signifies the end of the

2262

01:42:53,810 --> 01:42:52,070

so as we mentioned before that the the

2263

01:42:55,370 --> 01:42:53,820

individual that you see there on the

2264

01:42:57,890 --> 01:42:55,380

right hand side of your screen between

2265

01:42:59,990 --> 01:42:57,900

uh pilot Josh cassida and Commander

2266

01:43:03,229 --> 01:43:00,000

Nicole Mann that is the SpaceX medical

2267

01:43:05,090 --> 01:43:03,239

doctor always the first person to pop in

2268

01:43:07,609 --> 01:43:05,100

um basically just looking for four

2269

01:43:09,350 --> 01:43:07,619

thumbs up from the crew members to

2270

01:43:16,250 --> 01:43:09,360

indicate that they're feeling all right

2271

01:43:20,930 --> 01:43:18,709

I'll also get a chance for one of the

2272

01:43:23,930 --> 01:43:20,940

photographers we do have photographers

2273

01:43:26,689 --> 01:43:23,940

on the recovery ship as well that are

2274

01:43:27,709 --> 01:43:26,699

able to document the Splashdown itself

2275

01:43:31,010 --> 01:43:27,719

so

2276

01:43:32,149 --> 01:43:31,020

um oh as I mentioned going to get that

2277

01:43:37,669 --> 01:43:32,159

shot

2278

01:43:45,590 --> 01:43:40,570

I'm sure they're using a wide angle lens

2279

01:43:49,790 --> 01:43:48,350

smiling faces and

2280

01:43:52,609 --> 01:43:49,800

the other thing you can note there on

2281

01:43:55,910 --> 01:43:52,619

the exterior of the Dragon capsule is

2282

01:43:59,090 --> 01:43:55,920

the the evidence of re-entry you can see

2283

01:44:02,030 --> 01:43:59,100

there with some slight Scorch marks on

2284

01:44:04,729 --> 01:44:02,040

the thermal protective system there it

2285

01:44:07,910 --> 01:44:04,739

was a very pristine white uh on launch

2286

01:44:09,109 --> 01:44:07,920

day and within the last hour

2287

01:44:11,209 --> 01:44:09,119

um of course it re-entered the

2288

01:44:12,709 --> 01:44:11,219

atmosphere and splashed down and we can

2289

01:44:15,290 --> 01:44:12,719

see that evidence there on the exterior

2290

01:44:17,209 --> 01:44:15,300

of the capsule

2291

01:44:19,970 --> 01:44:17,219

yeah the heat shield obviously did a

2292

01:44:22,010 --> 01:44:19,980

great job bringing back our crew members

2293

01:44:24,290 --> 01:44:22,020

safely and this is the second flight for

2294

01:44:28,209 --> 01:44:24,300

this capsule so there is the opportunity

2295

01:44:32,090 --> 01:44:28,219

for it to be taken back and uh

2296

01:44:34,609 --> 01:44:32,100

refurbished or polished up prepared for

2297

01:44:36,830 --> 01:44:34,619

another future flight

2298

01:44:40,729 --> 01:44:36,840

so for those of you just recently joined

2299

01:44:43,910 --> 01:44:40,739

the crew is uh the crew 5 astronauts and

2300

01:44:46,129 --> 01:44:43,920

Cosmonaut are now on board the recovery

2301
01:44:48,890 --> 01:44:46,139
vessel and we are awaiting their egress

2302
01:44:50,649 --> 01:44:48,900
from Dragon endurance

2303
01:44:54,470 --> 01:44:50,659
they will come out one at a time

2304
01:44:57,709 --> 01:44:54,480
assisted by the recovery team members as

2305
01:45:01,490 --> 01:44:57,719
you can imagine after spending uh 157

2306
01:45:03,709 --> 01:45:01,500
days in space gravity might not feel uh

2307
01:45:05,990 --> 01:45:03,719
super awesome right now and so we will

2308
01:45:09,410 --> 01:45:06,000
assist them just to make sure that they

2309
01:45:11,330 --> 01:45:09,420
are safe making their first uh first

2310
01:45:13,550 --> 01:45:11,340
motions back on Earth

2311
01:45:15,530 --> 01:45:13,560
you can see them passing out of the

2312
01:45:17,689 --> 01:45:15,540
capsule those are the tablets that we

2313
01:45:19,910 --> 01:45:17,699

noticed earlier the crew members wear

2314

01:45:23,450 --> 01:45:19,920

around their upper thigh they're able to

2315

01:45:25,070 --> 01:45:23,460

monitor procedures on those tablets so

2316

01:45:26,450 --> 01:45:25,080

they're starting to pass those out of

2317

01:45:28,129 --> 01:45:26,460

the hatch I think I've seen all four

2318

01:45:31,310 --> 01:45:28,139

come through and that was a foot rest

2319

01:45:33,890 --> 01:45:31,320

those can be detached obviously here on

2320

01:45:36,050 --> 01:45:33,900

Earth or whether on orbit to have a

2321

01:45:38,149 --> 01:45:36,060

little bit more space in the capsule so

2322

01:45:42,290 --> 01:45:38,159

they'll remove those four foot rests to

2323

01:45:44,770 --> 01:45:42,300

allow teams to more easily enter dragon

2324

01:45:50,149 --> 01:45:44,780

and help these crew members

2325

01:45:56,290 --> 01:45:52,310

again this view here in Mission Control

2326
01:45:59,149 --> 01:45:56,300
in Hawthorne California teams at SpaceX

2327
01:46:22,609 --> 01:45:59,159
monitoring the return and arrival of

2328
01:46:26,689 --> 01:46:25,070
coming up on about 45 minutes since

2329
01:46:30,350 --> 01:46:26,699
Splashdown tonight

2330
01:46:34,370 --> 01:46:32,090
crew members are being prepared for

2331
01:46:35,870 --> 01:46:34,380
egress

2332
01:46:46,609 --> 01:46:35,880
everything has moved really smoothly

2333
01:46:53,050 --> 01:46:49,149
once again that is a view

2334
01:46:56,629 --> 01:46:53,060
looking toward the side hatch that view

2335
01:47:00,229 --> 01:46:56,639
has Commander Nicole Mann on the left

2336
01:47:09,350 --> 01:47:00,239
hand side and pilot Josh cassida on the

2337
01:47:14,090 --> 01:47:11,750
so they're most likely debriefing the

2338
01:47:16,430 --> 01:47:14,100

crew members on

2339

01:47:19,850 --> 01:47:16,440

um you know what to expect the next the

2340

01:47:22,070 --> 01:47:19,860

next steps for their next steps and

2341

01:47:23,990 --> 01:47:22,080

helping them get out of their seat belts

2342

01:47:26,030 --> 01:47:24,000

just making things easier for that

2343

01:47:28,490 --> 01:47:26,040

egress we saw those foot restraints or

2344

01:47:30,709 --> 01:47:28,500

the the foot rests were removed from the

2345

01:47:32,330 --> 01:47:30,719

spacecraft so just making things easier

2346

01:47:34,850 --> 01:47:32,340

for our crew members as you can see

2347

01:47:36,410 --> 01:47:34,860

their visors are up they are hopefully

2348

01:47:38,689 --> 01:47:36,420

pretty comfortable in those custom

2349

01:47:47,209 --> 01:47:38,699

fitted suits as well as those seat

2350

01:47:51,229 --> 01:47:50,270

again these are SpaceX team members it

2351

01:47:54,290 --> 01:47:51,239

helps

2352

01:47:56,209 --> 01:47:54,300

distinguish due to the different colored

2353

01:47:57,950 --> 01:47:56,219

uh flight seats they're wearing so

2354

01:47:59,930 --> 01:47:57,960

they're wearing black suits and

2355

01:48:03,530 --> 01:47:59,940

typically when you see someone in a

2356

01:48:05,810 --> 01:48:03,540

royal blue suit that is a NASA team

2357

01:48:07,430 --> 01:48:05,820

member so we saw a couple of those from

2358

01:48:10,490 --> 01:48:07,440

the other view but right now this is

2359

01:48:12,950 --> 01:48:10,500

mainly the SpaceX crew inside Dragon

2360

01:48:15,709 --> 01:48:12,960

helping the oh and there's a few of

2361

01:48:17,570 --> 01:48:15,719

those uh NASA team members as we

2362

01:48:19,310 --> 01:48:17,580

mentioned

2363

01:48:22,189 --> 01:48:19,320

that's a great shot because you can

2364

01:48:23,750 --> 01:48:22,199

really see that scorching on the thermal

2365

01:48:26,590 --> 01:48:23,760

protection system as I was talking about

2366

01:48:30,070 --> 01:48:26,600

earlier that evidence of re-entry

2367

01:48:34,970 --> 01:48:30,080

the exterior of the capsule got up to

2368

01:48:38,330 --> 01:48:34,980

3500 degrees Fahrenheit and it's I think

2369

01:48:40,550 --> 01:48:38,340

it's quite beautiful to see uh returned

2370

01:48:42,350 --> 01:48:40,560

capsules of course because

2371

01:48:45,290 --> 01:48:42,360

um you know it's just that evidence of

2372

01:48:54,770 --> 01:48:45,300

of space flight and success absolutely

2373

01:48:59,390 --> 01:48:57,050

and just a reminder of course once these

2374

01:49:02,209 --> 01:48:59,400

astronauts are helped out of the capsule

2375

01:49:05,750 --> 01:49:02,219

we'll see them being placed likely on

2376

01:49:09,890 --> 01:49:05,760

stretchers again helping them regain

2377

01:49:13,810 --> 01:49:11,689

they'll then move into those routine

2378

01:49:17,030 --> 01:49:13,820

medical checks those happen on the boat

2379

01:49:20,570 --> 01:49:17,040

and shortly after those they will board

2380

01:49:28,370 --> 01:49:20,580

a ready and waiting helicopter to head

2381

01:49:34,129 --> 01:49:30,669

once I come back to

2382

01:49:35,870 --> 01:49:34,139

Florida there will be a NASA spacecraft

2383

01:49:37,490 --> 01:49:35,880

waiting for them to bring them back to

2384

01:49:59,149 --> 01:49:37,500

Houston they'll be able to reunite with

2385

01:50:03,590 --> 01:50:01,310

and it looks like our egress is

2386

01:50:04,970 --> 01:50:03,600

beginning with NASA astronaut Josh

2387

01:50:06,950 --> 01:50:04,980

cassida

2388

01:50:10,430 --> 01:50:06,960

pilot of

2389

01:50:13,090 --> 01:50:10,440

Dragon Endurance on crew 5.

2390

01:50:27,890 --> 01:50:13,100

his first space site coming home with

2391

01:50:33,709 --> 01:50:30,229

I believe there is a

2392

01:50:36,770 --> 01:50:33,719

um almost like a little slide

2393

01:50:39,050 --> 01:50:36,780

um that is secured to the exterior of

2394

01:50:41,510 --> 01:50:39,060

the capsule and to the egress deck

2395

01:50:43,430 --> 01:50:41,520

basically to to bridge that Gap yeah we

2396

01:50:46,370 --> 01:50:43,440

could see Josh

2397

01:50:48,830 --> 01:50:46,380

um sliding out of the frame there

2398

01:50:51,890 --> 01:50:48,840

and that really just helps them

2399

01:50:54,050 --> 01:50:51,900

um get out of the capsule not only from

2400

01:50:56,450 --> 01:50:54,060

the standpoint of making it easier on

2401

01:50:59,390 --> 01:50:56,460

them but also preserving

2402

01:51:08,450 --> 01:50:59,400

um the the hardware the around that the

2403

01:51:14,149 --> 01:51:11,030

of course all those buttons that we see

2404

01:51:17,270 --> 01:51:14,159

there on the crew displays are all now

2405

01:51:20,770 --> 01:51:17,280

completely deactivated now that the

2406

01:51:25,370 --> 01:51:20,780

Dragon capsule is recovered and and

2407

01:51:30,830 --> 01:51:28,370

so even if somebody were to bump one

2408

01:51:43,790 --> 01:51:30,840

with their elbow or their head nothing

2409

01:51:49,010 --> 01:51:46,790

so Josh Casada NASA astronaut our first

2410

01:51:50,570 --> 01:51:49,020

crew member out of the spacecraft looks

2411

01:51:53,990 --> 01:51:50,580

like those SpaceX team members are back

2412

01:51:56,750 --> 01:51:54,000

inside Dragon endurance and uh they are

2413

01:51:58,609 --> 01:51:56,760

helping

2414

01:52:00,169 --> 01:51:58,619

I doubt we'll hear any more of those

2415

01:52:01,790 --> 01:52:00,179

those calls from the crew to the ground

2416

01:52:04,250 --> 01:52:01,800

now that the patch is open but every

2417

01:52:06,830 --> 01:52:04,260

time I hear it I pause a little bit I if

2418

01:52:08,510 --> 01:52:06,840

I had to guess that was probably that

2419

01:52:12,229 --> 01:52:08,520

recovery team member accidentally

2420

01:52:14,629 --> 01:52:12,239

bumping the armrest calm panel

2421

01:52:18,350 --> 01:52:14,639

um which is the comp panel that they use

2422

01:52:19,970 --> 01:52:18,360

to basically push to talk while they're

2423

01:52:23,149 --> 01:52:19,980

in their seats

2424

01:52:27,050 --> 01:52:23,159

so if I had to guess that was a uh an

2425

01:52:32,510 --> 01:52:29,750

so it looks like the second individual

2426
01:52:36,109 --> 01:52:32,520
to egress from the Dragon capsule will

2427
01:52:46,070 --> 01:52:36,119
be Commander Nicole Mann

2428
01:52:55,609 --> 01:52:49,010
also 157 days for Nicole being that it

2429
01:53:01,669 --> 01:52:59,330
I would imagine for koichi who you

2430
01:53:03,950 --> 01:53:01,679
mentioned earlier has you'll have to

2431
01:53:07,790 --> 01:53:03,960
refresh my memory over 500 days now

2432
01:53:11,450 --> 01:53:07,800
large in space yes uh exactly 505. there

2433
01:53:14,810 --> 01:53:11,460
we go so I imagine this part is

2434
01:53:17,930 --> 01:53:14,820
never easy but he's very familiar knows

2435
01:53:21,910 --> 01:53:17,940
what to expect in terms of the change in

2436
01:53:30,229 --> 01:53:26,689
commander of crew 5 Nicole Mann also

2437
01:53:31,850 --> 01:53:30,239
became the first Native American woman

2438
01:53:33,890 --> 01:53:31,860

to live on the International Space

2439

01:53:39,410 --> 01:53:33,900

Station so a real moment of Pride there

2440

01:53:44,330 --> 01:53:41,990

and you can see her being helped to

2441

01:53:47,209 --> 01:53:44,340

those medical quarters again all all

2442

01:53:48,649 --> 01:53:47,219

nominal all uh pre-planned checks just

2443

01:53:49,910 --> 01:53:48,659

an opportunity to make sure the crew is

2444

01:53:52,129 --> 01:53:49,920

feeling good before they take that

2445

01:53:55,070 --> 01:53:52,139

helicopter ride back to shore

2446

01:53:58,090 --> 01:53:55,080

exactly and as you mentioned earlier uh

2447

01:54:01,790 --> 01:53:58,100

all the crew members are effectively

2448

01:54:04,490 --> 01:54:01,800

placed on what basically looks like a

2449

01:54:07,669 --> 01:54:04,500

stretcher and that's just again really

2450

01:54:10,729 --> 01:54:07,679

to assist them because uh returning to

2451
01:54:13,310 --> 01:54:10,739
Earth after as we said before 157 days

2452
01:54:15,290 --> 01:54:13,320
in space can be pretty tough on the body

2453
01:54:17,870 --> 01:54:15,300
and of course in order to keep them safe

2454
01:54:20,890 --> 01:54:17,880
we want to assist them so all four of

2455
01:54:25,310 --> 01:54:20,900
the crew members are placed on

2456
01:54:27,830 --> 01:54:25,320
a a wheelie bed and roll back to those

2457
01:54:32,930 --> 01:54:27,840
medical quarters as you said for their

2458
01:54:35,990 --> 01:54:32,940
evaluations with the the flight doctors

2459
01:54:38,870 --> 01:54:36,000
so now our NASA astronauts are out of

2460
01:54:42,410 --> 01:54:38,880
the spacecraft we are awaiting egress of

2461
01:54:45,169 --> 01:54:42,420
Cosmos Cosmonaut on akikina her first

2462
01:54:48,470 --> 01:54:45,179
space flight and as we mentioned

2463
01:54:52,129 --> 01:54:48,480

seasoned veteran koichiwakata of the

2464

01:54:56,390 --> 01:54:52,139

Japanese Aerospace Exploration Agency

2465

01:55:00,530 --> 01:54:58,490

yeah as I mentioned before that slide we

2466

01:55:03,830 --> 01:55:00,540

have a great view of that slide now

2467

01:55:06,109 --> 01:55:03,840

really helps the crew in this egress

2468

01:55:08,930 --> 01:55:06,119

procedure

2469

01:55:11,450 --> 01:55:08,940

now this is probably koichi uh judging

2470

01:55:23,149 --> 01:55:11,460

by I can see that Japanese flag on that

2471

01:55:27,950 --> 01:55:25,970

yeah I think you're right because uh it

2472

01:55:29,930 --> 01:55:27,960

looked like yeah that looks like koichi

2473

01:55:32,030 --> 01:55:29,940

it looks like they were

2474

01:55:36,050 --> 01:55:32,040

um pulling from seat one so yeah that

2475

01:55:36,060 --> 01:55:42,290

oh I can see it look at that smile

2476

01:55:42,300 --> 01:55:52,970

definitely not his first rodeo

2477

01:55:57,109 --> 01:55:54,709

that means our

2478

01:55:59,810 --> 01:55:57,119

last mission specialist and crew member

2479

01:56:01,669 --> 01:55:59,820

to egress today will be on a kikuna

2480

01:56:03,350 --> 01:56:01,679

in that far right seat we can still see

2481

01:56:05,169 --> 01:56:03,360

one of those SpaceX crew members inside

2482

01:56:07,729 --> 01:56:05,179

helping her

2483

01:56:23,930 --> 01:56:07,739

out of the

2484

01:56:28,790 --> 01:56:26,629

not even an hour since Splashdown and we

2485

01:56:30,129 --> 01:56:28,800

are almost having all four crew members

2486

01:56:32,689 --> 01:56:30,139

out of the spacecraft that's right

2487

01:56:36,830 --> 01:56:32,699

Splashdown occurred off the coast of

2488

01:56:43,310 --> 01:56:36,840

Tampa Florida at uh 902 PM eastern time

2489

01:56:47,390 --> 01:56:45,470

again we had great weather reports as we

2490

01:56:49,729 --> 01:56:47,400

prepared to splash down at Tampa and we

2491

01:56:53,510 --> 01:56:49,739

even got pretty good views of how calm

2492

01:56:55,330 --> 01:56:53,520

the uh the ocean appeared to be as the

2493

01:57:02,930 --> 01:56:55,340

crew members awaited

2494

01:57:08,629 --> 01:57:05,750

and for those that might be wondering

2495

01:57:12,229 --> 01:57:08,639

um the at the top of the capsule there

2496

01:57:14,930 --> 01:57:12,239

we uh there was a curved line that was

2497

01:57:18,109 --> 01:57:14,940

the line indicating where the nose cone

2498

01:57:21,050 --> 01:57:18,119

um was separated from the the primary

2499

01:57:27,109 --> 01:57:23,410

so it looks like on a kikuna

2500

01:57:30,290 --> 01:57:27,119

uh our Cosmonaut on board crew 5 is

2501
01:57:34,729 --> 01:57:30,300
about to make her way down the the fun

2502
01:57:37,070 --> 01:57:34,739
slide and egress Dragon endurance

2503
01:57:42,109 --> 01:57:37,080
which once again made its second

2504
01:57:48,229 --> 01:57:46,010
Miss Cosmos cosmonaut anakikina

2505
01:57:52,850 --> 01:57:48,239
our final crew member to egress tonight

2506
01:57:58,550 --> 01:57:55,490
she will also uh

2507
01:58:02,270 --> 01:57:58,560
have those same medical checks

2508
01:58:20,750 --> 01:58:02,280
before flying back to Russia look at

2509
01:58:26,209 --> 01:58:23,270
and that is all four of our crew members

2510
01:58:28,250 --> 01:58:26,219
uh now that Nicole Josh koichi and Anna

2511
01:58:30,290 --> 01:58:28,260
are safely back home on Earth and

2512
01:58:32,450 --> 01:58:30,300
getting checked out by the Medical Teams

2513
01:58:34,609 --> 01:58:32,460

we're going to wrap up our live coverage

2514

01:58:37,970 --> 01:58:34,619

of their return again this all kicked

2515

01:58:41,270 --> 01:58:37,980

off on October 5th 2022 October 5 for

2516

01:58:42,830 --> 01:58:41,280

crew 5. from historic launch pad 39a at

2517

01:58:45,350 --> 01:58:42,840

the Kennedy Space Center in Florida

2518

01:58:47,990 --> 01:58:45,360

after successful liftoff and separation

2519

01:58:49,850 --> 01:58:48,000

from Falcon 9 Nicole Josh koichi and

2520

01:58:52,010 --> 01:58:49,860

Anna made a 28-hour flight on board

2521

01:58:54,470 --> 01:58:52,020

Dragon 2 the International Space Station

2522

01:58:56,689 --> 01:58:54,480

since arriving at the space station they

2523

01:58:59,870 --> 01:58:56,699

sent spent nearly six months as members

2524

01:59:02,089 --> 01:58:59,880

of expedition 67 and 68 executing

2525

01:59:03,770 --> 01:59:02,099

science experiments spacewalks and

2526

01:59:06,290 --> 01:59:03,780

repairs while aboard the orbiting

2527

01:59:09,470 --> 01:59:06,300

Laboratory their journey home began

2528

01:59:11,930 --> 01:59:09,480

about 19 hours ago on March 10th when

2529

01:59:14,870 --> 01:59:11,940

they closed the side closed the forward

2530

01:59:17,030 --> 01:59:14,880

hatch to the Dragon capsule and undock

2531

01:59:19,910 --> 01:59:17,040

from the International Space Station at

2532

01:59:22,490 --> 01:59:19,920

11 20 PM Pacific time after four

2533

01:59:25,149 --> 01:59:22,500

successful departure Burns and a phasing

2534

01:59:27,830 --> 01:59:25,159

burn to line up their orbit Nicole

2535

01:59:30,290 --> 01:59:27,840

joshuichi and Anna rested for a few

2536

01:59:32,870 --> 01:59:30,300

hours before waking up and to prepare

2537

01:59:35,629 --> 01:59:32,880

for their re-entry we jettison dragons

2538

01:59:39,890 --> 01:59:35,639

trunk and performed our final on-orbit

2539

01:59:43,729 --> 01:59:39,900

maneuver the deorbit burn at 5 11 p.m

2540

01:59:46,490 --> 01:59:43,739

Pacific time to send the dragon on its

2541

01:59:48,530 --> 01:59:46,500

path home the spacecraft re-entered

2542

01:59:50,570 --> 01:59:48,540

Earth's atmosphere and slowed its

2543

01:59:52,910 --> 01:59:50,580

descent with successful deployments of

2544

01:59:55,250 --> 01:59:52,920

two drogue parachutes and four healthy

2545

01:59:58,010 --> 01:59:55,260

Mains with the final Splashdown

2546

02:00:01,850 --> 01:59:58,020

occurring off the coast of Florida at

2547

02:00:03,649 --> 02:00:01,860

602 PM Pacific Time following that

2548

02:00:05,689 --> 02:00:03,659

successful Splashdown we saw SpaceX

2549

02:00:08,450 --> 02:00:05,699

recovery experts moving in and prepare

2550

02:00:10,729 --> 02:00:08,460

dragon endurance for its lift onto the

2551

02:00:14,149 --> 02:00:10,739

recovery vessel and just a little less

2552

02:00:17,089 --> 02:00:14,159

than an hour ago 58 minutes to be exact

2553

02:00:20,030 --> 02:00:17,099

wow following Splashdown we saw Nicole

2554

02:00:22,790 --> 02:00:20,040

Josh koichi and Anna make their way out

2555

02:00:24,890 --> 02:00:22,800

of the Dragon capsule and into the

2556

02:00:26,990 --> 02:00:24,900

recovery ship's medical facilities safe

2557

02:00:28,729 --> 02:00:27,000

and sound so next up they will catch

2558

02:00:30,770 --> 02:00:28,739

that helicopter flight back to shore

2559

02:00:33,229 --> 02:00:30,780

they will transfer to aircraft that will

2560

02:00:34,669 --> 02:00:33,239

take them home Nicole joshuichi and Anna

2561

02:00:36,890 --> 02:00:34,679

will take a NASA plane for the short

2562

02:00:39,470 --> 02:00:36,900

flight to Houston and later Anna will

2563

02:00:41,510 --> 02:00:39,480

fly back to Russia they will be reunited

2564

02:00:43,910 --> 02:00:41,520

with families to bring an end to this

2565

02:00:45,709 --> 02:00:43,920

mission of course as always it's been an

2566

02:00:47,450 --> 02:00:45,719

honor and a privilege to share their

2567

02:00:50,450 --> 02:00:47,460

Journey with all of you as we continue

2568

02:00:52,550 --> 02:00:50,460

this new era in human space flight the

2569

02:00:55,250 --> 02:00:52,560

return today marks the end of a direct

2570

02:00:57,410 --> 02:00:55,260

Handover that we just executed after

2571

02:01:00,709 --> 02:00:57,420

successfully launching the cruise 6

2572

02:01:03,589 --> 02:01:00,719

mission to the space station uh just a

2573

02:01:06,770 --> 02:01:03,599

little over a week actually uh I guess

2574

02:01:09,229 --> 02:01:06,780

that yeah about a week go it has been an

2575

02:01:11,209 --> 02:01:09,239

incredible honor and joy to share this

2576

02:01:13,490 --> 02:01:11,219

Mission with the public all the teams

2577

02:01:15,530 --> 02:01:13,500

from SpaceX and NASA continue to work

2578

02:01:18,410 --> 02:01:15,540

hard to keep America leading the world

2579

02:01:20,570 --> 02:01:18,420

in human space flight continue to follow

2580

02:01:23,089 --> 02:01:20,580

SpaceX and NASA online and on social

2581

02:01:25,310 --> 02:01:23,099

media for updates for the very latest on

2582

02:01:26,870 --> 02:01:25,320

crew and cargo flights to and from the

2583

02:01:28,609 --> 02:01:26,880

International Space Station

2584

02:01:30,950 --> 02:01:28,619

and we will continue to share the

2585

02:01:32,750 --> 02:01:30,960

progress of Nicole Josh koichi and Anna

2586

02:01:34,729 --> 02:01:32,760

on social media as they travel back home

2587

02:01:37,129 --> 02:01:34,739

we also have a post-splashdown media

2588

02:01:40,189 --> 02:01:37,139

telecon coming up at approximately 7 30

2589

02:01:42,530 --> 02:01:40,199

p.m Pacific Time 10 30 p.m eastern time

2590

02:01:45,050 --> 02:01:42,540

where leadership from NASA jaxa and

2591

02:01:47,750 --> 02:01:45,060

SpaceX will share updates as we conclude

2592

02:01:49,669 --> 02:01:47,760

the successful Mission so we say thanks

2593

02:01:52,129 --> 02:01:49,679

one more time for tuning in and cheering

2594

02:01:54,589 --> 02:01:52,139

on Nicole Josh koichi and Anna as they

2595

02:01:57,050 --> 02:01:54,599

made their return back to Earth so from

2596

02:02:05,410 --> 02:01:57,060

all of us at Nasa and SpaceX welcome