



1
00:00:07,369 --> 00:00:05,150
that should be happening any any moment

2
00:00:10,430 --> 00:00:07,379
now so far we've had the trunk

3
00:00:13,129 --> 00:00:10,440
jettisoned uh the slew to de-orbit burn

4
00:00:27,290 --> 00:00:13,139
attitude and again just waiting for that

5
00:00:27,300 --> 00:00:35,270
hearing 10 seconds until the burn begins

6
00:00:39,709 --> 00:00:37,310
and we do have confirmation that the

7
00:00:42,530 --> 00:00:39,719
orbit burn has begun

8
00:01:02,389 --> 00:00:42,540
this burn is expected to last about 17

9
00:01:07,789 --> 00:01:04,810
So within the last 10 minutes Dragon

10
00:01:10,550 --> 00:01:07,799
jettisoned its trunk and initiated the

11
00:01:13,310 --> 00:01:10,560
de-orbit burn just seconds ago that door

12
00:01:15,710 --> 00:01:13,320
de-orbit burn is now underway we are

13
00:01:18,530 --> 00:01:15,720

expecting about 16 more minutes to

14

00:01:21,710 --> 00:01:18,540

remain in that deorbit burn the burn in

15

00:01:24,830 --> 00:01:21,720

all is slated to last about 17 minutes

16

00:01:26,749 --> 00:01:24,840

and for these operations NASA and SpaceX

17

00:01:30,109 --> 00:01:26,759

do closely coordinate with the United

18

00:01:33,050 --> 00:01:30,119

States Coast Guard to establish a safe a

19

00:01:34,370 --> 00:01:33,060

safety zone to ensure Public Safety and

20

00:01:36,190 --> 00:01:34,380

of course for the safety of those

21

00:01:38,990 --> 00:01:36,200

involved in the recovery options

22

00:01:40,850 --> 00:01:39,000

operations as well as the crew on board

23

00:01:43,429 --> 00:01:40,860

the returning spacecraft

24

00:01:45,649 --> 00:01:43,439

multiple notices are issued to the

25

00:01:48,230 --> 00:01:45,659

Mariners in advance and during recovery

26

00:01:50,270 --> 00:01:48,240

operations and Coast Guard Patrol boats

27

00:01:53,030 --> 00:01:50,280

are deployed to discourage voters from

28

00:01:54,950 --> 00:01:53,040

entering the Splashdown zones we do want

29

00:01:57,469 --> 00:01:54,960

to stress to the public the need to

30

00:01:59,630 --> 00:01:57,479

respect this safety zone recovering a

31

00:02:01,670 --> 00:01:59,640

spacecraft from the water is a hazardous

32

00:02:03,770 --> 00:02:01,680

operation and any other boats

33

00:02:06,289 --> 00:02:03,780

interfering increases risk to the

34

00:02:08,150 --> 00:02:06,299

astronauts in the capsule and the teams

35

00:02:10,070 --> 00:02:08,160

are working to recover them from the

36

00:02:12,650 --> 00:02:10,080

water and the safety of those that come

37

00:02:14,869 --> 00:02:12,660

too close so for the safety of the crew

38

00:02:17,270 --> 00:02:14,879

and your safety we really do recommend

39

00:02:19,070 --> 00:02:17,280

you sit back and watch here as we'll be

40

00:02:21,350 --> 00:02:19,080

bringing you the very best possible

41

00:02:22,729 --> 00:02:21,360

views of our astronauts homecoming and

42

00:02:26,690 --> 00:02:22,739

you can see some of those views right

43

00:02:29,390 --> 00:02:26,700

now from the recovery vessel Megan

44

00:02:32,990 --> 00:02:29,400

like we mentioned earlier the deorbit

45

00:02:35,630 --> 00:02:33,000

burn is the last time that the four

46

00:02:37,729 --> 00:02:35,640

forward Draco thrusters will fire dragon

47

00:02:39,890 --> 00:02:37,739

Freedom has not yet entered Earth's

48

00:02:42,890 --> 00:02:39,900

atmosphere this deorbit burn is what

49

00:02:45,050 --> 00:02:42,900

will line the vehicle up and put it on

50

00:02:47,390 --> 00:02:45,060

its final trajectory to The Landing site

51
00:02:50,869 --> 00:02:47,400
off the coast of Jacksonville Florida

52
00:02:53,390 --> 00:02:50,879
right now Chell Bob Jessica and Samantha

53
00:02:55,190 --> 00:02:53,400
are using their screens to keep tabs on

54
00:02:57,410 --> 00:02:55,200
the burn duration which we were able to

55
00:03:01,250 --> 00:02:57,420
get a live view of a little bit earlier

56
00:03:04,250 --> 00:03:01,260
Draco Thruster firings and trajectory

57
00:03:06,229 --> 00:03:04,260
details like entry angle capsule perigee

58
00:03:08,630 --> 00:03:06,239
and how much distance remaining until

59
00:03:11,149 --> 00:03:08,640
the deorbit burn termination

60
00:03:13,369 --> 00:03:11,159
dragon is flying itself again it's

61
00:03:15,170 --> 00:03:13,379
autonomous so all the crew has to do is

62
00:03:20,750 --> 00:03:15,180
stay strapped in their seats and keep

63
00:03:25,729 --> 00:03:23,570

but shell Bob Jessica and Samantha ready

64

00:03:27,890 --> 00:03:25,739

to de-orbit and splash down back on

65

00:03:30,050 --> 00:03:27,900

Earth they'll be heading to one of seven

66

00:03:32,509 --> 00:03:30,060

targeted sites supported by SpaceX and

67

00:03:34,550 --> 00:03:32,519

NASA all of these sites are located off

68

00:03:36,949 --> 00:03:34,560

the coast of Florida either in the Gulf

69

00:03:38,930 --> 00:03:36,959

of Mexico or the Atlantic Ocean

70

00:03:41,030 --> 00:03:38,940

spreading the supported sites across

71

00:03:42,770 --> 00:03:41,040

multiple locations helps to maximize the

72

00:03:44,869 --> 00:03:42,780

return opportunities for this Mission

73

00:03:47,750 --> 00:03:44,879

and future Crews lowering the chance

74

00:03:48,649 --> 00:03:47,760

that we'll have to wave off due to bad

75

00:03:51,530 --> 00:03:48,659

weather

76

00:03:54,110 --> 00:03:51,540

and earlier today NASA and SpaceX

77

00:03:56,570 --> 00:03:54,120

jointly selected Prime and Alternate

78

00:03:58,850 --> 00:03:56,580

Splashdown locations off the coast of

79

00:04:01,490 --> 00:03:58,860

Jacksonville which is our Prime stay and

80

00:04:04,430 --> 00:04:01,500

where the boat is currently staged and

81

00:04:06,410 --> 00:04:04,440

the alternate is Tallahassee Florida the

82

00:04:08,270 --> 00:04:06,420

selection process works with a lot of

83

00:04:10,910 --> 00:04:08,280

different variables including the Space

84

00:04:12,589 --> 00:04:10,920

Station's orbital trajectory what

85

00:04:14,509 --> 00:04:12,599

Landing sites are available and how

86

00:04:16,610 --> 00:04:14,519

favorable weather how much free flight

87

00:04:19,129 --> 00:04:16,620

capability dragon has for the trip home

88

00:04:20,810 --> 00:04:19,139

and the sleep schedule for the returning

89

00:04:22,490 --> 00:04:20,820

crew members

90

00:04:24,710 --> 00:04:22,500

we'll start with calculating daily

91

00:04:26,810 --> 00:04:24,720

return options based off of the Space

92

00:04:29,330 --> 00:04:26,820

Station's current orbit and dragon's

93

00:04:31,790 --> 00:04:29,340

capabilities to maneuver and line up for

94

00:04:33,890 --> 00:04:31,800

re-entry the time from undocked to

95

00:04:36,650 --> 00:04:33,900

landing at the primary site can vary

96

00:04:39,650 --> 00:04:36,660

from less than six hours to more than 39

97

00:04:41,810 --> 00:04:39,660

hours getting home the quickest comes

98

00:04:44,090 --> 00:04:41,820

with some obvious benefits but we always

99

00:04:46,909 --> 00:04:44,100

have to make sure that the crew if

100

00:04:49,070 --> 00:04:46,919

properly rested is properly rested for

101
00:04:51,790 --> 00:04:49,080
dynamic operations preventing us from

102
00:04:54,230 --> 00:04:51,800
scheduling 20 plus hour days for them

103
00:04:56,090 --> 00:04:54,240
trajectory and ballistics experts

104
00:04:58,070 --> 00:04:56,100
provide the daily opportunities that

105
00:05:00,110 --> 00:04:58,080
would line up dragon with seven Landing

106
00:05:03,770 --> 00:05:00,120
zones and split them into what we call

107
00:05:06,590 --> 00:05:03,780
ascending and descending opportunities

108
00:05:09,230 --> 00:05:06,600
Dragon uses its Draco thrusters after

109
00:05:11,390 --> 00:05:09,240
leaving station to execute a series of

110
00:05:14,270 --> 00:05:11,400
altitude lowering Maneuvers and to line

111
00:05:16,490 --> 00:05:14,280
up with the selected primary site it can

112
00:05:18,830 --> 00:05:16,500
also change to different alternate sites

113
00:05:21,830 --> 00:05:18,840

while in Free Flight if sudden weather

114

00:05:22,969 --> 00:05:21,840

moves in that we'll need to avoid and

115

00:05:24,890 --> 00:05:22,979

whether it's something that we're

116

00:05:26,810 --> 00:05:24,900

constantly looking at making the final

117

00:05:29,390 --> 00:05:26,820

call to proceed about two and a half

118

00:05:31,249 --> 00:05:29,400

hours before the crew on docks so for

119

00:05:33,290 --> 00:05:31,259

the crew 4 return we looked at a number

120

00:05:35,330 --> 00:05:33,300

of weather items some of the obvious

121

00:05:37,670 --> 00:05:35,340

ones are no rain or chance of lightning

122

00:05:39,170 --> 00:05:37,680

in the recovery zone both for the safety

123

00:05:41,330 --> 00:05:39,180

of the crew inside the capsule and the

124

00:05:43,310 --> 00:05:41,340

recovery teams on the water are also

125

00:05:45,890 --> 00:05:43,320

looking for wind speeds less than 15

126
00:05:49,010 --> 00:05:45,900
feet per second or about 10 miles per

127
00:05:51,710 --> 00:05:49,020
hour and relatively calm seas so we can

128
00:05:53,689 --> 00:05:51,720
safely execute recovery operations which

129
00:05:56,090 --> 00:05:53,699
includes Landing a helicopter on the

130
00:05:58,249 --> 00:05:56,100
recovery ship to fly Chell Bob Jessica

131
00:06:01,370 --> 00:05:58,259
and Samantha back to Florida

132
00:06:02,990 --> 00:06:01,380
once Dragon began flying free we had a

133
00:06:05,150 --> 00:06:03,000
number of additional checkpoints to

134
00:06:07,490 --> 00:06:05,160
either proceed towards the primary site

135
00:06:09,830 --> 00:06:07,500
head to the alternate or select a new

136
00:06:11,990 --> 00:06:09,840
Zone based on real-time weather data

137
00:06:13,610 --> 00:06:12,000
these checks happened all the way up

138
00:06:16,490 --> 00:06:13,620

until we're in the final hours before

139

00:06:18,590 --> 00:06:16,500

the deorbit burn which is the last burn

140

00:06:20,810 --> 00:06:18,600

in the trip home and commits the Dragon

141

00:06:22,909 --> 00:06:20,820

capsule to re-entering biat the

142

00:06:25,430 --> 00:06:22,919

atmosphere and as we've mentioned this

143

00:06:27,230 --> 00:06:25,440

burn is underway we are hearing good

144

00:06:29,689 --> 00:06:27,240

calls that the burden is proceeding

145

00:06:31,249 --> 00:06:29,699

nominally or as expected which is great

146

00:06:33,710 --> 00:06:31,259

news

147

00:06:35,689 --> 00:06:33,720

I have your just now joining the deorbit

148

00:06:38,270 --> 00:06:35,699

burn start just about six minutes ago

149

00:06:40,850 --> 00:06:38,280

it's about a 17 minute or just under 17

150

00:06:42,710 --> 00:06:40,860

minute burn uh and we are just waiting

151
00:06:45,890 --> 00:06:42,720
to hear the call out for when it's

152
00:06:47,990 --> 00:06:45,900
complete for a normal burn uh and that's

153
00:06:52,129 --> 00:06:48,000
what will give us that confirmation for

154
00:06:55,909 --> 00:06:54,770
so we are six minutes into that burn as

155
00:06:58,129 --> 00:06:55,919
you said

156
00:07:01,610 --> 00:06:58,139
um it's about a 17 minute long burn so

157
00:07:03,770 --> 00:07:01,620
we're continuing to progress in that

158
00:07:06,590 --> 00:07:03,780
burn continuing to get good call outs

159
00:07:08,749 --> 00:07:06,600
that everything is going as expected

160
00:07:10,850 --> 00:07:08,759
and so during this the orbit burn this

161
00:07:13,730 --> 00:07:10,860
is the last time that those four forward

162
00:07:15,230 --> 00:07:13,740
uh Draco thrusters will fire um during

163
00:07:17,270 --> 00:07:15,240

this mission

164

00:07:19,249 --> 00:07:17,280

so Freedom has not yet entered the

165

00:07:20,749 --> 00:07:19,259

Earth's atmosphere yet this the orbit

166

00:07:22,309 --> 00:07:20,759

burn is really what will line the

167

00:07:25,370 --> 00:07:22,319

vehicle up and put it on its final

168

00:07:43,790 --> 00:07:25,380

trajectory to The Landing site which of

169

00:07:50,210 --> 00:07:46,850

so the crew continues to

170

00:07:53,450 --> 00:07:50,220

um really head home after spending 170

171

00:07:55,749 --> 00:07:53,460

days in space during that time they

172

00:07:58,490 --> 00:07:55,759

completed 2000 and

173

00:08:02,390 --> 00:07:58,500

2720 orbits of the earth and they

174

00:08:04,070 --> 00:08:02,400

traveled over 72 million miles it's

175

00:08:05,809 --> 00:08:04,080

really interesting to think about it in

176

00:08:08,689 --> 00:08:05,819

that perspective because the space

177

00:08:11,570 --> 00:08:08,699

station is moving 17 500 miles per hour

178

00:08:14,270 --> 00:08:11,580

which means that they orbit the Earth

179

00:08:16,790 --> 00:08:14,280

every 90 minutes and the crew sees a

180

00:08:19,369 --> 00:08:16,800

Sunset and a sunrise every 45 minutes so

181

00:08:21,469 --> 00:08:19,379

when you're there for 170 days you see a

182

00:08:24,830 --> 00:08:21,479

lot of sunsets a lot of sunrises and you

183

00:08:26,089 --> 00:08:24,840

travel a lot of miles over 72 million of

184

00:08:28,550 --> 00:08:26,099

them in fact

185

00:08:29,930 --> 00:08:28,560

yeah that's a lot of miles and that

186

00:08:32,570 --> 00:08:29,940

sounds pretty cool to see all those

187

00:08:34,909 --> 00:08:32,580

sunsets and sunrises development of

188

00:08:37,610 --> 00:08:34,919

dragon for crew started with a cargo

189

00:08:39,589 --> 00:08:37,620

dragon dragon was designed from the

190

00:08:41,570 --> 00:08:39,599

beginning for flying humans to space so

191

00:08:44,269 --> 00:08:41,580

much so that it even that even the first

192

00:08:46,010 --> 00:08:44,279

cargo Dragon had a window on it and

193

00:08:47,930 --> 00:08:46,020

before we could fly humans our teams

194

00:08:49,790 --> 00:08:47,940

implemented a number of design upgrades

195

00:08:52,130 --> 00:08:49,800

to make sure that both dragon and Falcon

196

00:08:54,290 --> 00:08:52,140

9 are suitable for flying people and

197

00:08:56,449 --> 00:08:54,300

then put both vehicles through thousands

198

00:08:58,970 --> 00:08:56,459

of tests to prove their safety

199

00:09:01,130 --> 00:08:58,980

uh dragon is capable of carrying up to

200

00:09:03,650 --> 00:09:01,140

seven passengers to and from Earth orbit

201
00:09:05,509 --> 00:09:03,660
and Beyond it is the only spacecraft

202
00:09:07,430 --> 00:09:05,519
currently flying that is capable of

203
00:09:09,829 --> 00:09:07,440
returning significant amounts of cargo

204
00:09:12,050 --> 00:09:09,839
to Earth and is the first private

205
00:09:13,790 --> 00:09:12,060
spacecraft to take humans to the

206
00:09:16,190 --> 00:09:13,800
International Space Station

207
00:09:18,230 --> 00:09:16,200
is fully autonomous which means that it

208
00:09:20,389 --> 00:09:18,240
can basically fly itself but also

209
00:09:23,030 --> 00:09:20,399
features a full manual override

210
00:09:25,850 --> 00:09:23,040
capabilities in case of emergency

211
00:09:27,710 --> 00:09:25,860
now standing at almost 27 feet tall from

212
00:09:29,930 --> 00:09:27,720
the bottom of the trunk to the top of

213
00:09:32,150 --> 00:09:29,940

the nose cone dragon is composed of two

214

00:09:34,370 --> 00:09:32,160

main elements that's the capsule which

215

00:09:36,889 --> 00:09:34,380

is designed to hold crew and pressurized

216

00:09:39,290 --> 00:09:36,899

cargo and an unpressurized section known

217

00:09:41,630 --> 00:09:39,300

as the trunk and for today we have

218

00:09:44,090 --> 00:09:41,640

already jettisoned the trunk which

219

00:09:47,870 --> 00:09:44,100

reveals the heat shield on Dragon As It

220

00:09:53,509 --> 00:09:51,350

and there you can see the 27 foot tall

221

00:09:55,610 --> 00:09:53,519

Dragon vehicle that top part there is

222

00:09:57,350 --> 00:09:55,620

called the capsule and below it with the

223

00:09:59,870 --> 00:09:57,360

black and white

224

00:10:01,970 --> 00:09:59,880

um colors there is the trunk the black

225

00:10:04,850 --> 00:10:01,980

portion of that are

226

00:10:07,009 --> 00:10:04,860

um solar arrays

227

00:10:09,410 --> 00:10:07,019

and you do also see that nose cone at

228

00:10:11,090 --> 00:10:09,420

the very top there um following this new

229

00:10:14,269 --> 00:10:11,100

orbit burn we will close up that nose

230

00:10:15,949 --> 00:10:14,279

cone as we discussed but the nose cone

231

00:10:18,070 --> 00:10:15,959

does open for docking and remains

232

00:10:20,810 --> 00:10:18,080

attached to the crew Dragon spacecraft

233

00:10:23,210 --> 00:10:20,820

and then it will close here following

234

00:10:25,370 --> 00:10:23,220

the D orbit burn we are over halfway

235

00:10:27,290 --> 00:10:25,380

complete with the deorbit burn we have

236

00:10:29,030 --> 00:10:27,300

about seven minutes remaining continuing

237

00:10:31,310 --> 00:10:29,040

to hear good call outs everything

238

00:10:34,970 --> 00:10:31,320

proceeding as expected in this deorbit

239

00:10:40,610 --> 00:10:37,009

if you're just now joining us the

240

00:10:43,190 --> 00:10:40,620

deorbit burn started around 101 p.m

241

00:10:45,170 --> 00:10:43,200

Pacific time it will last about 17

242

00:10:47,030 --> 00:10:45,180

minutes or just under 17 minutes and we

243

00:10:50,870 --> 00:10:47,040

are just waiting to hear the call out

244

00:10:52,670 --> 00:10:50,880

for a normal burn uh that will confirm

245

00:10:55,310 --> 00:10:52,680

the completion of the deorbit burn for

246

00:10:57,530 --> 00:10:55,320

Dragon freedom

247

00:11:00,250 --> 00:10:57,540

and prior to this deorbit burn there was

248

00:11:03,410 --> 00:11:00,260

a series of other Burns that took place

249

00:11:05,329 --> 00:11:03,420

one of those occurred uh just a short

250

00:11:08,329 --> 00:11:05,339

time ago and that was the propellant

251
00:11:10,009 --> 00:11:08,339
wasting burn or prop wasting burn and

252
00:11:12,350 --> 00:11:10,019
that really is to just get rid of the

253
00:11:15,050 --> 00:11:12,360
excess propellant that is not needed for

254
00:11:16,389 --> 00:11:15,060
re-entry and it helps the capsule to

255
00:11:23,810 --> 00:11:16,399
weigh less

256
00:11:29,269 --> 00:11:26,150
and coming up after the deorbit burn

257
00:11:32,690 --> 00:11:29,279
about 12 to 13 minutes later we will

258
00:11:34,730 --> 00:11:32,700
begin to close the nose cone uh speaking

259
00:11:36,829 --> 00:11:34,740
of you know dragon's previous design we

260
00:11:39,170 --> 00:11:36,839
used to jettison the nose cone but for

261
00:11:42,290 --> 00:11:39,180
reusability purposes we now keep the

262
00:11:44,569 --> 00:11:42,300
nose cone attached so once we finish the

263
00:11:46,310 --> 00:11:44,579

final burn which is the orbit burn we no

264

00:11:48,350 --> 00:11:46,320

longer need to use those thrusters those

265

00:11:51,110 --> 00:11:48,360

forward bulkhead thrusters so we can

266

00:11:54,650 --> 00:11:51,120

close the nose cone as it makes its way

267

00:11:59,150 --> 00:11:57,050

and following the completion of the

268

00:12:01,730 --> 00:11:59,160

deorbit burn and the nose cone closing

269

00:12:03,230 --> 00:12:01,740

the crew will then begin to re-enter the

270

00:12:05,750 --> 00:12:03,240

Earth's atmosphere there will be a

271

00:12:07,790 --> 00:12:05,760

blackout period where we will not be

272

00:12:09,290 --> 00:12:07,800

able to communicate back and forth with

273

00:12:12,290 --> 00:12:09,300

them that does slash just a few minutes

274

00:12:13,970 --> 00:12:12,300

and that is completely expected that is

275

00:12:16,130 --> 00:12:13,980

happening because the plasma is building

276

00:12:18,410 --> 00:12:16,140

up around the vehicle but the heat

277

00:12:20,930 --> 00:12:18,420

shield will do its job and protect the

278

00:12:22,790 --> 00:12:20,940

crew throughout that process and then

279

00:12:24,650 --> 00:12:22,800

once the crew has gotten to the other

280

00:12:26,269 --> 00:12:24,660

side of the atmosphere we should have

281

00:12:29,090 --> 00:12:26,279

communications back with them and then

282

00:12:31,130 --> 00:12:29,100

we will see the drogue parachutes deploy

283

00:12:33,110 --> 00:12:31,140

then the main parachutes and then we'll

284

00:12:36,650 --> 00:12:33,120

see Splashdown just a short time after

285

00:12:38,509 --> 00:12:36,660

that really that's just about 40 minutes

286

00:12:41,090 --> 00:12:38,519

away from now we should see the the

287

00:12:42,650 --> 00:12:41,100

crews flashing down in the ocean so I'm

288

00:12:45,650 --> 00:12:42,660

excited for it I'm sure the crew's

289

00:12:48,050 --> 00:12:45,660

excited for it but we are nearing the

290

00:12:49,240 --> 00:12:48,060

end of this deorbit burn about five

291

00:13:08,449 --> 00:12:49,250

minutes remaining in it

292

00:13:13,970 --> 00:13:10,610

and so to talk a little bit about those

293

00:13:16,910 --> 00:13:13,980

parachutes that are going to deploy

294

00:13:21,110 --> 00:13:16,920

the uh the drug parachutes slow the

295

00:13:22,730 --> 00:13:21,120

dragon uh down from 350 miles per hour

296

00:13:25,850 --> 00:13:22,740

um so that's still going pretty quick

297

00:13:27,889 --> 00:13:25,860

but then once the main parachutes deploy

298

00:13:40,009 --> 00:13:27,899

it will be it will slow down quite a bit

299

00:14:03,470 --> 00:13:42,110

just about four minutes remaining in the

300

00:14:09,170 --> 00:14:06,350

so after those parachutes are deployed

301

00:14:11,030 --> 00:14:09,180

um we will see them be cut there's a

302

00:14:13,490 --> 00:14:11,040

fast boat that goes out there and that's

303

00:14:15,889 --> 00:14:13,500

really the purpose of the fast um of

304

00:14:17,810 --> 00:14:15,899

that particular fastboat is to cut those

305

00:14:19,550 --> 00:14:17,820

parachutes and that's really just to

306

00:14:23,030 --> 00:14:19,560

make sure that they don't get caught in

307

00:14:25,069 --> 00:14:23,040

the wind or pulling the crew around so

308

00:14:29,449 --> 00:14:25,079

those parachutes will will be cut so

309

00:14:32,269 --> 00:14:29,459

that's expected and then after that uh a

310

00:14:34,790 --> 00:14:32,279

sniff check will be done by one of the

311

00:14:38,030 --> 00:14:34,800

recovery folks um and that's just to

312

00:14:40,250 --> 00:14:38,040

ensure that there is no Vapors or

313

00:14:41,810 --> 00:14:40,260

anything that would pose a risk to the

314

00:14:54,290 --> 00:14:41,820
recovery Personnel or the crew

315

00:15:00,350 --> 00:14:57,230
we are just a couple minutes away from

316

00:15:03,230 --> 00:15:00,360
the completion of the deorbit burn we

317

00:15:21,590 --> 00:15:03,240
are just waiting for a call out

318

00:15:26,810 --> 00:15:24,290
about two minutes left in this deorbit

319

00:15:28,970 --> 00:15:26,820
burn and next up after the deorbit burn

320

00:15:30,949 --> 00:15:28,980
will be the nose cone closing it's very

321

00:15:32,930 --> 00:15:30,959
important to close that nose cone

322

00:15:34,430 --> 00:15:32,940
because it protects the docking

323

00:15:42,350 --> 00:15:34,440
mechanism and some guidance and

324

00:15:46,670 --> 00:15:44,810
and so at this point the heat shield is

325

00:15:48,710 --> 00:15:46,680
now pointed towards the Earth and is

326

00:15:51,650 --> 00:15:48,720

really getting ready to do the heavy

327

00:15:53,389 --> 00:15:51,660

lifting of protecting the capsule and of

328

00:15:57,230 --> 00:15:53,399

course more importantly the crew inside

329

00:15:59,509 --> 00:15:57,240

from the over 3500 degree Fahrenheit

330

00:16:01,910 --> 00:15:59,519

that's going to be exposed to as the

331

00:16:04,189 --> 00:16:01,920

Dragon capsule enters the Earth as part

332

00:16:05,689 --> 00:16:04,199

of their recovery operations so that

333

00:16:07,970 --> 00:16:05,699

will be coming up here shortly we have

334

00:16:14,150 --> 00:16:07,980

just about a minute remaining in today's

335

00:16:14,160 --> 00:16:39,970

foreign

336

00:16:52,810 --> 00:16:43,009

to hear good call outs that the deorbit

337

00:16:57,290 --> 00:16:54,850

foreign

338

00:16:59,449 --> 00:16:57,300

systems are looking good and of course

339

00:17:02,990 --> 00:16:59,459

the crew is monitoring every step of the

340

00:17:05,630 --> 00:17:03,000

way checking in they do have iPads as

341

00:17:08,449 --> 00:17:05,640

well as the screens that they are able

342

00:17:11,630 --> 00:17:08,459

to utilize and and look on the tablet as

343

00:17:13,789 --> 00:17:11,640

to how much time is remaining on the

344

00:17:15,710 --> 00:17:13,799

deorbit burn

345

00:17:21,949 --> 00:17:15,720

and we did just hear the deorbit Burn is

346

00:17:27,289 --> 00:17:24,829

Freedom SpaceX do you ever burn complete

347

00:17:31,090 --> 00:17:27,299

performance nominal nose cone closure is

348

00:17:43,549 --> 00:17:34,970

copies nominals I'm here and uh nose

349

00:17:49,669 --> 00:17:46,909

awesome news nominal D orbit burn and

350

00:17:56,029 --> 00:17:49,679

also heard the call out that the nose

351
00:18:00,710 --> 00:17:58,370
so in the background dragon is currently

352
00:18:02,570 --> 00:18:00,720
inhibiting those forward bulkhead Draco

353
00:18:04,970 --> 00:18:02,580
thrusters that we just used to complete

354
00:18:07,010 --> 00:18:04,980
the orbit burn ensuring it's safe to

355
00:18:09,470 --> 00:18:07,020
latch the nose cone shut for re-entry

356
00:18:12,289 --> 00:18:09,480
also the vehicle has initiated the

357
00:18:14,990 --> 00:18:12,299
nitrox suit Purge this will help keep

358
00:18:17,390 --> 00:18:15,000
Chell Bob Jessica and Samantha cool and

359
00:18:19,250 --> 00:18:17,400
comfortable during re-entry and you do

360
00:18:23,029 --> 00:18:19,260
see that nose cone beginning to close

361
00:18:27,230 --> 00:18:25,250
at this point that nose cone is closing

362
00:18:30,230 --> 00:18:27,240
and protecting the forward hatch for

363
00:18:32,029 --> 00:18:30,240

re-entry Chell Bob Jessica and Samantha

364

00:18:34,430 --> 00:18:32,039

are using their screens as we mentioned

365

00:18:46,370 --> 00:18:34,440

to monitor the Locking of the nose cone

366

00:18:53,570 --> 00:18:49,430

again this nose cone sequence is about

367

00:18:55,909 --> 00:18:53,580

12 to 13 minutes long so we've got about

368

00:19:01,850 --> 00:18:55,919

11 minutes left for that nose cone to

369

00:19:01,860 --> 00:19:11,810

and good callouts

370

00:19:16,070 --> 00:19:14,029

so now we're really just in a waiting

371

00:19:18,830 --> 00:19:16,080

period right now before we begin that

372

00:19:20,870 --> 00:19:18,840

re-entry period that's coming up in just

373

00:19:24,289 --> 00:19:20,880

a few minutes when the crew themselves

374

00:19:26,810 --> 00:19:24,299

will re-enter the Earth's atmosphere and

375

00:19:28,310 --> 00:19:26,820

as we discussed earlier the heat shield

376

00:19:30,529 --> 00:19:28,320

will really

377

00:19:34,190 --> 00:19:30,539

be protecting the crew during this time

378

00:19:36,409 --> 00:19:34,200

period the temperatures can reach 3500

379

00:19:39,409 --> 00:19:36,419

degrees Fahrenheit but the heat shield

380

00:19:42,590 --> 00:19:39,419

was created to protect the crew during

381

00:19:44,690 --> 00:19:42,600

this Dynamic operation and as they enter

382

00:19:47,150 --> 00:19:44,700

through the atmosphere it's really going

383

00:19:50,029 --> 00:19:47,160

to slow them down right now they're

384

00:19:52,250 --> 00:19:50,039

going a little more than 17 000 miles

385

00:19:54,770 --> 00:19:52,260

per hour but as they re-enter the

386

00:19:56,510 --> 00:19:54,780

Earth's atmosphere once they come out on

387

00:19:59,029 --> 00:19:56,520

the other side they'll be going much

388

00:20:01,730 --> 00:19:59,039

slower and then the parachutes will just

389

00:20:04,130 --> 00:20:01,740

continue to slow them down from 350

390

00:20:06,350 --> 00:20:04,140

miles per hour to a little less than 20

391

00:20:09,169 --> 00:20:06,360

at the time that they splash down

392

00:20:11,210 --> 00:20:09,179

and also during re-entry uh there will

393

00:20:13,549 --> 00:20:11,220

be a period where you know that heat

394

00:20:15,230 --> 00:20:13,559

builds up around the capsule there'll be

395

00:20:17,930 --> 00:20:15,240

plasma that builds up around the capsule

396

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

so there will be a blackout Zone which

397

00:20:22,070 --> 00:20:20,340

is normal uh lasts about about six

398

00:20:23,510 --> 00:20:22,080

minutes long

399

00:20:25,490 --> 00:20:23,520

um and then once we get through that

400

00:20:27,650 --> 00:20:25,500

blackout Zone then we'll

401

00:20:29,690 --> 00:20:27,660

um confirm confirmation

402

00:20:31,549 --> 00:20:29,700

we'll confirm confirmation with the crew

403

00:20:35,330 --> 00:20:31,559

to make sure that

404

00:20:56,510 --> 00:20:35,340

um can communicate with the ground here

405

00:20:56,520 --> 00:21:26,710

foreign

406

00:21:32,690 --> 00:21:29,690

to progress through the nose cone

407

00:21:36,830 --> 00:21:32,700

closure process at this time the hooks

408

00:21:39,770 --> 00:21:36,840

are closing there are two sets of six

409

00:21:41,630 --> 00:21:39,780

hooks so 12 hooks total that need to

410

00:22:38,210 --> 00:21:41,640

close to secure the nose cone and

411

00:22:42,590 --> 00:22:40,430

so we are getting a view on the left

412

00:22:46,490 --> 00:22:42,600

hand of your screen of Mission Control

413

00:22:47,990 --> 00:22:46,500

in Houston at Texas that is where our

414

00:22:49,850 --> 00:22:48,000

flight controllers and the flight

415

00:22:53,149 --> 00:22:49,860

director monitor under the International

416

00:22:54,830 --> 00:22:53,159

Space Station 24 hours a day seven days

417

00:22:58,070 --> 00:22:54,840

a week we have a variety of different

418

00:22:59,450 --> 00:22:58,080

console positions that specialize in

419

00:23:02,149 --> 00:22:59,460

different parts of the International

420

00:23:04,130 --> 00:23:02,159

Space Station and they all work together

421

00:23:07,190 --> 00:23:04,140

as a team to keep the space station

422

00:23:09,529 --> 00:23:07,200

flying it's now been flying for over 20

423

00:23:12,409 --> 00:23:09,539

excuse me it's now been it's been

424

00:23:14,390 --> 00:23:12,419

continuously occupied now for over 20

425

00:23:17,330 --> 00:23:14,400

years and onboard the International

426
00:23:20,350 --> 00:23:17,340
Space Station right now are seven human

427
00:23:24,350 --> 00:23:20,360
beings of course crew five that just

428
00:23:26,690 --> 00:23:24,360
arrived last week as well as two Russian

429
00:23:30,710 --> 00:23:26,700
cosmonauts and NASA astronaut Frank

430
00:23:33,470 --> 00:23:30,720
Rubio who arrived on a soyuz vehicle but

431
00:23:36,350 --> 00:23:33,480
with crew for departing earlier today it

432
00:23:38,570 --> 00:23:36,360
brought the population from 11 crew

433
00:23:43,010 --> 00:23:38,580
members down to seven and that will be

434
00:23:44,570 --> 00:23:43,020
the compliment for the next few months

435
00:23:47,450 --> 00:23:44,580
and we've been keeping the International

436
00:23:49,850 --> 00:23:47,460
Space Station pretty busy with NASA crew

437
00:23:52,310 --> 00:23:49,860
flights being about every six months so

438
00:23:54,110 --> 00:23:52,320

it's been pretty cool to to see

439

00:23:56,630 --> 00:23:54,120

um you know a different group of

440

00:23:58,730 --> 00:23:56,640

astronauts every six months being able

441

00:24:00,890 --> 00:23:58,740

to you know perform research and science

442

00:24:02,810 --> 00:24:00,900

on the International Space Station

443

00:24:05,270 --> 00:24:02,820

and that's a really great point the

444

00:24:08,690 --> 00:24:05,280

International Space Station truly is an

445

00:24:10,909 --> 00:24:08,700

orbiting laboratory crew 4 contributed

446

00:24:11,810 --> 00:24:10,919

to hundreds of science experiments while

447

00:24:15,409 --> 00:24:11,820

they were on board the International

448

00:24:17,090 --> 00:24:15,419

Space Station crew 5 will continue some

449

00:24:19,789 --> 00:24:17,100

of those science investigations as well

450

00:24:21,289 --> 00:24:19,799

as start new ones and what I love so

451
00:24:23,750 --> 00:24:21,299
much about it is many of those science

452
00:24:26,029 --> 00:24:23,760
investigations have direct implications

453
00:24:27,350 --> 00:24:26,039
to us here on Earth if you are

454
00:24:29,149 --> 00:24:27,360
interested in learning more about that

455
00:24:31,789 --> 00:24:29,159
you can check out the benefits for

456
00:24:33,649 --> 00:24:31,799
Humanity the 2020 version was just

457
00:24:43,490 --> 00:24:33,659
published here recently and you can find

458
00:24:43,500 --> 00:24:51,169
foreign

459
00:24:55,789 --> 00:24:53,630
so if you are just tuning in with us

460
00:24:58,310 --> 00:24:55,799
crew 5 has undocked from the

461
00:25:02,390 --> 00:24:58,320
International Space Station and the

462
00:25:06,169 --> 00:25:02,400
deorbit burn has taken place that was

463
00:25:22,970 --> 00:25:06,179

all successful and freedom SpaceX that

464

00:25:27,950 --> 00:25:25,909

we got some great news the nose cone

465

00:25:30,890 --> 00:25:27,960

sequence is complete meaning that the

466

00:25:33,110 --> 00:25:30,900

nose cone is now officially closed as we

467

00:25:35,510 --> 00:25:33,120

begin the second half of Entry dragon is

468

00:25:38,450 --> 00:25:35,520

now beginning to inject cold nitrox into

469

00:25:40,909 --> 00:25:38,460

the air being delivered to the suits

470

00:25:42,769 --> 00:25:40,919

worn by Chell Bob Jessica and Samantha

471

00:25:44,510 --> 00:25:42,779

now again this is what will allow the

472

00:25:47,810 --> 00:25:44,520

crew to remain comfortable while

473

00:25:50,390 --> 00:25:47,820

external temperatures reach 3 500 degree

474

00:25:52,549 --> 00:25:50,400

degrees Fahrenheit now the heat shield

475

00:25:54,649 --> 00:25:52,559

is pointing forward leading the capsule

476
00:25:56,870 --> 00:25:54,659
to The Landing site

477
00:25:58,909 --> 00:25:56,880
and speaking of the heat shield dragon's

478
00:26:01,370 --> 00:25:58,919
primary heat shield is comprised of Pika

479
00:26:04,850 --> 00:26:01,380
3.0 which stands for phenolic

480
00:26:07,190 --> 00:26:04,860
impregnated carbon ablator first

481
00:26:09,409 --> 00:26:07,200
generation Pika was first developed by

482
00:26:11,810 --> 00:26:09,419
NASA for studying and sampling comets

483
00:26:14,390 --> 00:26:11,820
within our solar system

484
00:26:16,730 --> 00:26:14,400
and SpaceX partnered with NASA to

485
00:26:19,970 --> 00:26:16,740
develop Pika X which was the second

486
00:26:21,890 --> 00:26:19,980
generation product used on all Dragon 1

487
00:26:24,110 --> 00:26:21,900
CRS missions that successfully

488
00:26:27,769 --> 00:26:24,120

resupplied the space station on 20

489

00:26:30,830 --> 00:26:27,779

missions then Pika 3.0 was developed

490

00:26:33,289 --> 00:26:30,840

specifically for use on Dragon 2 crew

491

00:26:35,570 --> 00:26:33,299

and cargo with enhanced structural and

492

00:26:37,490 --> 00:26:35,580

thermal properties that optimize the

493

00:26:38,450 --> 00:26:37,500

heat shield and drove down costs and

494

00:26:40,789 --> 00:26:38,460

Mass

495

00:26:42,590 --> 00:26:40,799

the remainder of the Dragon capsule is

496

00:26:45,890 --> 00:26:42,600

comprised primarily of a SpaceX

497

00:26:47,570 --> 00:26:45,900

proprietary ablative material it's

498

00:26:50,210 --> 00:26:47,580

another class of thermal protection

499

00:26:52,310 --> 00:26:50,220

which is lighter weight versus Pica and

500

00:26:54,769 --> 00:26:52,320

protects the underlying composite

501
00:26:56,750 --> 00:26:54,779
material or structure during re-entry to

502
00:26:57,890 --> 00:26:56,760
ensure these structural capabilities are

503
00:26:59,630 --> 00:26:57,900
maintained

504
00:27:01,909 --> 00:26:59,640
and wall Dragon will experience

505
00:27:04,010 --> 00:27:01,919
temperatures well over 3000 degrees

506
00:27:06,590 --> 00:27:04,020
Fahrenheit during Peak re-entry

507
00:27:09,110 --> 00:27:06,600
conditions the characteristics of the

508
00:27:11,870 --> 00:27:09,120
TPS or thermal Protection Systems

509
00:27:14,510 --> 00:27:11,880
coupled with the Equus environmental

510
00:27:17,149 --> 00:27:14,520
Cooling and life support system in the

511
00:27:19,370 --> 00:27:17,159
pressurized interior interior will help

512
00:27:20,990 --> 00:27:19,380
ensure that Chell Bob Jessica and

513
00:27:23,570 --> 00:27:21,000

Samantha stay cool and comfortable

514

00:27:27,110 --> 00:27:23,580

during All Phases of re-entry through

515

00:27:31,669 --> 00:27:29,570

now after crew Dragon Freedom has

516

00:27:33,710 --> 00:27:31,679

re-entered the Earth's atmosphere a

517

00:27:36,710 --> 00:27:33,720

series of parachutes will deploy and

518

00:27:38,630 --> 00:27:36,720

that'll slow the crew's descent

519

00:27:40,430 --> 00:27:38,640

first will be the two drogue shoots

520

00:27:42,529 --> 00:27:40,440

followed by the four main shoots to

521

00:27:44,630 --> 00:27:42,539

guide dragon to its first contact with

522

00:27:46,610 --> 00:27:44,640

Earth since launching in April earlier

523

00:27:48,710 --> 00:27:46,620

this year Dragon will automatically

524

00:27:50,750 --> 00:27:48,720

deployed these parachutes when different

525

00:27:52,970 --> 00:27:50,760

pressure and positioning sensors on the

526
00:27:55,250 --> 00:27:52,980
capsule detect that they are at the

527
00:27:58,130 --> 00:27:55,260
right speed and altitude

528
00:28:01,250 --> 00:27:58,140
vehicle velocity at drogue deploy is

529
00:28:03,669 --> 00:28:01,260
approximately 350 miles per hour as we

530
00:28:06,470 --> 00:28:03,679
mentioned earlier and those drogue

531
00:28:08,090 --> 00:28:06,480
parachutes do deploy at about 18 000

532
00:28:10,789 --> 00:28:08,100
feet above the water

533
00:28:13,610 --> 00:28:10,799
now vehicle velocity at Main deploy is

534
00:28:16,909 --> 00:28:13,620
approximately 119 miles per hour and

535
00:28:19,310 --> 00:28:16,919
deploy at about 6 500 feet

536
00:28:22,669 --> 00:28:19,320
vehicle velocity at Water Splashdown is

537
00:28:24,409 --> 00:28:22,679
approximately 16 miles per hour and the

538
00:28:26,870 --> 00:28:24,419

highest G load the crew will experience

539

00:28:31,490 --> 00:28:26,880

during re-entry is approximately three

540

00:28:37,610 --> 00:28:35,090

so next up we are looking ahead towards

541

00:28:40,490 --> 00:28:37,620

the comms blackout that we discussed as

542

00:28:43,549 --> 00:28:40,500

the crew re-enters the atmosphere this

543

00:28:46,730 --> 00:28:43,559

is expected and can last a few minutes

544

00:28:50,450 --> 00:28:46,740

long but once the crew is on the other

545

00:28:51,529 --> 00:28:50,460

side of the comms blackout and we do

546

00:28:54,289 --> 00:28:51,539

regain

547

00:28:56,450 --> 00:28:54,299

um Communications with them uh the

548

00:28:59,630 --> 00:28:56,460

drogue shoots will deploy we are

549

00:29:01,490 --> 00:28:59,640

tracking the that first set of uh drugs

550

00:29:05,690 --> 00:29:01,500

the first set of parachutes the drug

551
00:29:07,850 --> 00:29:05,700
shoots to deploy around 1 51 pm

552
00:29:09,890 --> 00:29:07,860
just a minute later the main shoots will

553
00:29:11,690 --> 00:29:09,900
deploy and then about three minutes

554
00:29:14,450 --> 00:29:11,700
after that the moment we've all been

555
00:29:15,950 --> 00:29:14,460
waiting for we'll see crew for splash

556
00:29:18,230 --> 00:29:15,960
down off the coast of Jacksonville

557
00:29:21,590 --> 00:29:18,240
Florida we are still tracking

558
00:29:38,630 --> 00:29:21,600
approximately 1 55 PM Pacific time today

559
00:29:44,630 --> 00:29:41,149
and so at this time all of the recovery

560
00:29:46,010 --> 00:29:44,640
teams are in place those fast boats that

561
00:29:47,990 --> 00:29:46,020
we were talking about earlier have

562
00:29:51,230 --> 00:29:48,000
deployed and we really are getting ready

563
00:29:53,690 --> 00:29:51,240

to bring this crew home everything has

564

00:29:56,690 --> 00:29:53,700

proceeded as expected with the deorbit

565

00:29:58,430 --> 00:29:56,700

burn the nose cone is now deployed and

566

00:30:00,230 --> 00:29:58,440

the next big milestone that we're

567

00:30:12,889 --> 00:30:00,240

looking towards is that Communications

568

00:30:18,169 --> 00:30:15,110

again we have an awesome live view

569

00:30:20,990 --> 00:30:18,179

inside of the Dragon capsule seeing our

570

00:30:23,990 --> 00:30:21,000

crew and again we've mentioned this that

571

00:30:25,370 --> 00:30:24,000

they use the displays to monitor the

572

00:30:28,250 --> 00:30:25,380

activities that are happening with

573

00:30:30,470 --> 00:30:28,260

dragon but dragon is flying autonomously

574

00:30:35,990 --> 00:30:30,480

so they really just get to sit back and

575

00:30:36,000 --> 00:31:00,169

foreign

576

00:31:04,610 --> 00:31:02,330

so we did mention that we are looking

577

00:31:06,769 --> 00:31:04,620

towards entering a period where we will

578

00:31:09,169 --> 00:31:06,779

have a Communications blackout with the

579

00:31:11,029 --> 00:31:09,179

crew that is because of the plasma

580

00:31:13,669 --> 00:31:11,039

that's building up um because we're

581

00:31:16,970 --> 00:31:13,679

using the atmosphere itself to help slow

582

00:31:19,669 --> 00:31:16,980

us down we're going about 17 000 miles

583

00:31:21,470 --> 00:31:19,679

an hour and we do need to slow the crew

584

00:31:24,110 --> 00:31:21,480

down before they re-enter the Earth

585

00:31:26,570 --> 00:31:24,120

before they splash down and as they

586

00:31:28,909 --> 00:31:26,580

re-enter the Earth's atmosphere that

587

00:31:32,210 --> 00:31:28,919

will definitely happen they'll

588

00:31:33,769 --> 00:31:32,220

be going about 350 miles per hour once

589

00:31:36,049 --> 00:31:33,779

they enter the other side of the

590

00:31:38,330 --> 00:31:36,059

atmosphere and as we said they'll be

591

00:31:42,649 --> 00:31:38,340

going less than 20 miles per hour at the

592

00:31:42,659 --> 00:31:54,950

Freedom SpaceX for entry briefing

593

00:32:01,250 --> 00:31:57,950

Rachel I have no Deltas from the

594

00:32:03,110 --> 00:32:01,260

previously briefed tablet timeline

595

00:32:05,269 --> 00:32:03,120

Dragon systems are looking healthy and

596

00:32:07,190 --> 00:32:05,279

ready for entry and we have no updates

597

00:32:08,389 --> 00:32:07,200

for Splashdown the recovery team is

598

00:32:12,289 --> 00:32:08,399

ready to support and weather's looking

599

00:32:16,669 --> 00:32:14,210

can you copy all Arthur we're looking

600

00:32:31,970 --> 00:32:16,679

forward to splash down and and seeing

601
00:32:36,529 --> 00:32:34,370
crew there chatting with the corps here

602
00:32:41,930 --> 00:32:36,539
in Mission Control Hawthorne that's what

603
00:32:46,130 --> 00:32:44,450
we did get to see a live view of the

604
00:32:48,110 --> 00:32:46,140
crew in their seats in the Dragon

605
00:32:50,810 --> 00:32:48,120
capsule as they're making their way back

606
00:32:52,549 --> 00:32:50,820
home the suit's primary function is to

607
00:32:55,430 --> 00:32:52,559
protect the crew in the event of a

608
00:32:56,870 --> 00:32:55,440
dabbing cabin depressurization and if

609
00:32:59,029 --> 00:32:56,880
that were to occur the suit would

610
00:33:00,889 --> 00:32:59,039
inflate to provide a habitable

611
00:33:04,010 --> 00:33:00,899
environment long enough for the crew to

612
00:33:06,889 --> 00:33:04,020
return home there you can see them there

613
00:33:09,110 --> 00:33:06,899

right now they are also filling their

614

00:33:11,210 --> 00:33:09,120

suits with some cool night rocks that

615

00:33:13,250 --> 00:33:11,220

actually helps keep them cool the suits

616

00:33:15,830 --> 00:33:13,260

are kind of an extension of the Dragon

617

00:33:18,409 --> 00:33:15,840

capsule it's almost like they have their

618

00:33:19,970 --> 00:33:18,419

own personal AC unit

619

00:33:22,009 --> 00:33:19,980

on them

620

00:33:24,590 --> 00:33:22,019

and the suits are flame resistant

621

00:33:28,310 --> 00:33:24,600

materials on the outer layer also

622

00:33:30,529 --> 00:33:28,320

protects the crew in the event of a fire

623

00:33:32,750 --> 00:33:30,539

they are custom tailored single piece

624

00:33:35,389 --> 00:33:32,760

suits this means that the helmet gloves

625

00:33:37,430 --> 00:33:35,399

and boots all remain attached together

626
00:33:39,769 --> 00:33:37,440
and the helmet that we were able to see

627
00:33:42,950 --> 00:33:39,779
on the screen that they're wearing is 3D

628
00:33:47,690 --> 00:33:42,960
printed nylon and does have a visor that

629
00:33:53,269 --> 00:33:50,029
and they do have quick disconnects or

630
00:33:56,509 --> 00:33:53,279
cuties on the right thigh which mates to

631
00:33:58,250 --> 00:33:56,519
an umbilical on the seats and that is

632
00:34:00,889 --> 00:33:58,260
what provides the air for ventilation

633
00:34:02,630 --> 00:34:00,899
oxygen nitrox for pressurization and

634
00:34:09,409 --> 00:34:02,640
allows the electronics to be connected

635
00:34:09,419 --> 00:34:13,869
foreign

636
00:34:21,589 --> 00:34:17,089
if you're just now joining us we are

637
00:34:23,030 --> 00:34:21,599
live watching crew 4 return home to

638
00:34:26,030 --> 00:34:23,040

planet Earth from the International

639

00:34:28,790 --> 00:34:26,040

Space Station we've had the deorbit burn

640

00:34:29,750 --> 00:34:28,800

we've jettisoned the trunk or the

641

00:34:33,530 --> 00:34:29,760

vehicle

642

00:34:35,510 --> 00:34:33,540

and the nose cone has closed on Dragon

643

00:34:37,250 --> 00:34:35,520

freedom and again another live view

644

00:34:39,589 --> 00:34:37,260

inside of the capsule there okay in

645

00:34:41,030 --> 00:34:39,599

SpaceX from Freedom tablets the secure

646

00:34:49,450 --> 00:34:41,040

restraints are tightened and our visors

647

00:34:55,849 --> 00:34:52,730

space has copies for tablets restraints

648

00:34:58,910 --> 00:34:55,859

and visors please confirm that tablets

649

00:35:14,150 --> 00:34:58,920

are stowed with the loops as provided on

650

00:35:20,630 --> 00:35:16,790

so we are now less than 20 minutes away

651
00:35:22,430 --> 00:35:20,640
from Splashdown and again we are going

652
00:35:25,130 --> 00:35:22,440
to be entering that blackout

653
00:35:26,870 --> 00:35:25,140
communication period but once we are on

654
00:35:29,210 --> 00:35:26,880
the other side of that things will

655
00:35:30,770 --> 00:35:29,220
happen pretty quickly that drug shoots

656
00:35:37,190 --> 00:35:30,780
will deploy

657
00:35:41,569 --> 00:35:39,829
SpaceX copies thank you freedom and at

658
00:35:44,390 --> 00:35:41,579
this time we're just over five minutes

659
00:35:51,170 --> 00:35:44,400
from predicted com blackout we will see

660
00:35:54,410 --> 00:35:52,490
okay cop

661
00:35:56,510 --> 00:35:54,420
s from uh hello West and what's the

662
00:36:03,890 --> 00:35:56,520
other flip side

663
00:36:09,349 --> 00:36:06,470

and so you did hear those words from the

664

00:36:12,349 --> 00:36:09,359

ground up to a crew 4 namely Chell

665

00:36:15,109 --> 00:36:12,359

lingrin just ensuring that the tablets

666

00:36:18,490 --> 00:36:15,119

are stowed and secured in the proper

667

00:36:21,290 --> 00:36:18,500

positioning ahead of the communications

668

00:36:23,450 --> 00:36:21,300

blackout expected now less than five

669

00:36:26,870 --> 00:36:23,460

minutes from now and really in

670

00:36:30,710 --> 00:36:26,880

anticipation of re-entry and then splash

671

00:36:32,329 --> 00:36:30,720

down as we were saying the pace is

672

00:36:34,670 --> 00:36:32,339

really going to pick up once we are

673

00:36:36,710 --> 00:36:34,680

through that Communications blackout the

674

00:36:39,290 --> 00:36:36,720

drogue parachutes will deploy and then

675

00:36:41,870 --> 00:36:39,300

the main parachutes will deploy and then

676

00:36:44,150 --> 00:36:41,880

we will see the crew splash down after

677

00:36:46,250 --> 00:36:44,160

that we'll see the fast boats head out

678

00:36:48,170 --> 00:36:46,260

to the crew inspect it make sure

679

00:36:50,210 --> 00:36:48,180

everything is looking good and the

680

00:36:53,230 --> 00:36:50,220

Integrity of the vehicle is as it should

681

00:36:56,990 --> 00:36:53,240

be and those main parachutes will also

682

00:36:59,750 --> 00:36:57,000

be cut and then the recovery Personnel

683

00:37:02,870 --> 00:36:59,760

will work on securing the vehicle and

684

00:37:06,410 --> 00:37:02,880

bringing it into the recovery vessel and

685

00:37:08,569 --> 00:37:06,420

then after some private medical checks

686

00:37:11,569 --> 00:37:08,579

with the crew we should see the crew

687

00:37:15,109 --> 00:37:11,579

egress a short time after that so again

688

00:37:18,650 --> 00:37:15,119

we are expecting the Splashdown to occur

689

00:37:21,410 --> 00:37:18,660
at 155 Pacific time so just a few

690

00:37:23,690 --> 00:37:21,420
minutes from now and we are coming up on

691

00:37:26,690 --> 00:37:23,700
that Communications blackout that as

692

00:37:28,910 --> 00:37:26,700
that is as expected as well

693

00:37:31,010 --> 00:37:28,920
and this blackout period is basically

694

00:37:33,230 --> 00:37:31,020
when the vehicle is entering back into

695

00:37:35,210 --> 00:37:33,240
the Earth's atmosphere it is heating up

696

00:37:37,310 --> 00:37:35,220
and plasma is building around the

697

00:37:41,270 --> 00:37:37,320
capsule which prevents Communications

698

00:37:44,210 --> 00:37:41,280
with here in Mission Control lasts about

699

00:37:45,950 --> 00:37:44,220
six minutes it is nominal uh and once we

700

00:37:48,950 --> 00:37:45,960
get through that blackout period we do

701

00:37:51,530 --> 00:37:48,960

uh make sure that the crew can

702

00:37:53,810 --> 00:37:51,540

communicate with the ground here in

703

00:37:57,250 --> 00:37:53,820

Mission Control

704

00:38:00,050 --> 00:37:57,260

and we do have um the NASA plane the

705

00:38:02,210 --> 00:38:00,060

wb57 which is up in the air and it's

706

00:38:04,790 --> 00:38:02,220

equipped with some imaging technology

707

00:38:07,069 --> 00:38:04,800

that will be able to get pretty much the

708

00:38:09,349 --> 00:38:07,079

first views of the Dragon capsule on its

709

00:38:12,170 --> 00:38:09,359

return back to Earth so we are getting

710

00:38:12,950 --> 00:38:12,180

some of that footage right now

711

00:38:15,650 --> 00:38:12,960

um

712

00:38:18,230 --> 00:38:15,660

we are anticipating that Communications

713

00:38:20,329 --> 00:38:18,240

blackout and loss of signal here shortly

714

00:38:23,450 --> 00:38:20,339

this is really the beginning of that

715

00:38:25,720 --> 00:38:23,460

period where the crew themselves will be

716

00:38:43,910 --> 00:38:25,730

re-entering the Earth's atmosphere

717

00:38:50,690 --> 00:38:47,630

and at this time the dragon is working

718

00:38:52,790 --> 00:38:50,700

through a slewing maneuver which means

719

00:38:56,210 --> 00:38:52,800

that the dragon is helping to orient

720

00:38:57,950 --> 00:38:56,220

itself in the proper orientation ahead

721

00:38:59,930 --> 00:38:57,960

of the re-entry of the Earth's

722

00:39:01,790 --> 00:38:59,940

atmosphere again we're just a couple of

723

00:39:38,870 --> 00:39:01,800

minutes away from that anticipated

724

00:39:43,250 --> 00:39:41,030

we are just about a minute away from

725

00:39:44,930 --> 00:39:43,260

that Communications blackout period

726

00:39:47,270 --> 00:39:44,940

again it should last only about six

727

00:39:50,270 --> 00:39:47,280

minutes long and this is what happens

728

00:39:52,190 --> 00:39:50,280

when uh the vehicles begins to heat up

729

00:39:54,410 --> 00:39:52,200

as it's entering back into the Earth's

730

00:39:56,930 --> 00:39:54,420

atmosphere and builds up a layer of

731

00:39:58,370 --> 00:39:56,940

plasma around the vehicle again this is

732

00:40:01,430 --> 00:39:58,380

nominal

733

00:40:17,510 --> 00:40:01,440

um and we will establish Communications

734

00:40:22,069 --> 00:40:19,730

so we are hearing that the dragon is

735

00:40:24,230 --> 00:40:22,079

beginning to hit um the Earth's

736

00:40:26,810 --> 00:40:24,240

atmosphere here really at the upper

737

00:40:28,730 --> 00:40:26,820

limits of the atmosphere so that's going

738

00:40:31,609 --> 00:40:28,740

to help to slow the vehicle down quite a

739

00:41:00,950 --> 00:40:31,619

bit but we are now seconds away from the

740

00:41:22,609 --> 00:41:03,290

standing by for confirmation that we are

741

00:41:27,670 --> 00:41:25,010

and as we await that confirmation you

742

00:41:30,710 --> 00:41:27,680

can see the crowd is starting to grow

743

00:41:32,510 --> 00:41:30,720

here in Hawthorne behind the mission

744

00:41:34,790 --> 00:41:32,520

control center here

745

00:41:37,270 --> 00:41:34,800

looks like folks are trying to get a

746

00:41:41,390 --> 00:41:37,280

good view as we anticipate splash down

747

00:41:43,910 --> 00:41:41,400

here and a little less than 15 minutes

748

00:41:46,069 --> 00:41:43,920

and we do get pretty excited when we are

749

00:41:48,170 --> 00:41:46,079

bringing crew back home it is pretty

750

00:41:50,690 --> 00:41:48,180

exciting to watch them as they touch

751

00:42:01,010 --> 00:41:50,700

back down on planet Earth we've been out

752

00:42:05,630 --> 00:42:03,349

again we are currently in the comms

753

00:42:09,170 --> 00:42:05,640

blackout period this is nominal last

754

00:42:11,930 --> 00:42:09,180

about six minutes uh we are just

755

00:42:54,890 --> 00:42:11,940

a few minutes away from passing through

756

00:43:02,809 --> 00:42:56,630

thank you

757

00:43:06,890 --> 00:43:05,089

at this point we are entering a

758

00:43:08,930 --> 00:43:06,900

Communications blackout period which

759

00:43:11,630 --> 00:43:08,940

lasts approximately six minutes due to

760

00:43:13,250 --> 00:43:11,640

plasma formation around the spacecraft

761

00:43:15,530 --> 00:43:13,260

now during this time no vehicle

762

00:43:17,809 --> 00:43:15,540

Telemetry is received by Machine control

763

00:43:19,910 --> 00:43:17,819

or the recovery team and no external

764

00:43:22,609 --> 00:43:19,920

commanding of the vehicle or voice

765

00:43:24,410 --> 00:43:22,619

communication is possible now as a

766

00:43:26,690 --> 00:43:24,420

reminder dragon is designed to fly

767

00:43:28,790 --> 00:43:26,700

itself so during re-entry the vehicle

768

00:43:32,150 --> 00:43:28,800

will be slowing down from orbital

769

00:43:33,710 --> 00:43:32,160

velocity which is approximately 17 500

770

00:43:36,530 --> 00:43:33,720

miles per hour

771

00:43:40,030 --> 00:43:36,540

now the top temperature Dragon will

772

00:43:43,370 --> 00:43:40,040

experience upon re-entry is about three

773

00:43:45,230 --> 00:43:43,380

3500 degrees Fahrenheit

774

00:43:48,170 --> 00:43:45,240

and again the blackout period is

775

00:43:52,250 --> 00:43:48,180

expected to last about six maybe up to

776

00:43:56,930 --> 00:43:54,710

and we are just about four minutes

777

00:43:59,510 --> 00:43:56,940

remaining in this anticipated

778

00:44:02,809 --> 00:43:59,520

Communications blackout period and

779

00:44:05,410 --> 00:44:02,819

during this re-entry phase the team

780

00:44:09,470 --> 00:44:05,420

um the crew rather is going to be

781

00:44:11,390 --> 00:44:09,480

experiencing a deceleration and the team

782

00:44:13,190 --> 00:44:11,400

here on the ground is going to continue

783

00:44:15,650 --> 00:44:13,200

to monitor that make sure that

784

00:44:17,329 --> 00:44:15,660

everything is proceeding as expected but

785

00:44:19,010 --> 00:44:17,339

once we're on the other side of this

786

00:44:21,290 --> 00:44:19,020

Communications blackout that's when

787

00:44:23,329 --> 00:44:21,300

we'll begin to see the parachutes deploy

788

00:44:25,849 --> 00:44:23,339

beginning with the drove parachutes and

789

00:44:28,130 --> 00:44:25,859

then following with the main parachutes

790

00:44:30,770 --> 00:44:28,140

and then we'll see Splashdown and then

791

00:44:33,230 --> 00:44:30,780

the recovery process to get the crew

792

00:44:35,630 --> 00:44:33,240

onto the recovery vessel and then out of

793

00:44:37,609 --> 00:44:35,640

the capsule we'll begin

794

00:44:39,890 --> 00:44:37,619

and we did mention the high temperatures

795

00:44:42,589 --> 00:44:39,900

that the vehicle is seeing during this

796

00:44:44,569 --> 00:44:42,599

blackout period so there is nitrox

797

00:44:46,309 --> 00:44:44,579

flowing through the suits that the

798

00:44:48,589 --> 00:44:46,319

astronauts are

799

00:44:51,650 --> 00:44:48,599

um in and that helps keep them cool

800

00:45:00,230 --> 00:44:51,660

while the vehicle is getting very hot on

801
00:45:06,890 --> 00:45:02,990
so we are getting our very first views

802
00:45:10,010 --> 00:45:06,900
there from the wb57 of the capsule as it

803
00:45:12,109 --> 00:45:10,020
re-enters the Earth's atmosphere those

804
00:45:35,809 --> 00:45:12,119
views coming from an infrared camera

805
00:45:40,849 --> 00:45:38,150
and so the team will continue to track

806
00:45:43,069 --> 00:45:40,859
dragon as it re-enters the Earth's

807
00:45:45,349 --> 00:45:43,079
atmosphere I now have about three

808
00:45:48,890 --> 00:45:45,359
minutes remaining in the blackout period

809
00:45:53,390 --> 00:45:48,900
but again the wb57 that is deployed is

810
00:45:58,609 --> 00:45:56,089
once the expected blackout period is

811
00:46:01,550 --> 00:45:58,619
over the core here in Mission Control

812
00:46:03,530 --> 00:46:01,560
will attempt to establish Communications

813
00:46:06,530 --> 00:46:03,540

with the crew so you may hear some call

814

00:46:08,390 --> 00:46:06,540

outs checking in with the crew and they

815

00:46:10,250 --> 00:46:08,400

will make that call out until the crew

816

00:46:34,010 --> 00:46:10,260

does respond which will confirm

817

00:46:39,829 --> 00:46:36,290

we have about two minutes remaining in

818

00:46:43,130 --> 00:46:39,839

the anticipated period of communications

819

00:46:45,109 --> 00:46:43,140

blackout now it's not an exact science

820

00:46:47,089 --> 00:46:45,119

there might be some variation that

821

00:46:49,849 --> 00:46:47,099

occurs we might hear from the crew a

822

00:46:52,430 --> 00:46:49,859

little earlier than we expected or

823

00:46:55,069 --> 00:46:52,440

potentially a little bit later but we

824

00:46:58,609 --> 00:46:55,079

are all on the edge of our seats eagerly

825

00:47:10,130 --> 00:46:58,619

awaiting to hear from the crew so far

826
00:47:12,590 --> 00:47:11,740
okay

827
00:47:15,250 --> 00:47:12,600
[Music]

828
00:47:42,650 --> 00:47:15,260
[Applause]

829
00:47:49,010 --> 00:47:44,990
continuing to get those views from the

830
00:47:50,630 --> 00:47:49,020
wb57 of crew dragon as it continues to

831
00:47:57,829 --> 00:47:50,640
make its way closer and closer to

832
00:47:57,839 --> 00:48:03,650
okay

833
00:48:08,930 --> 00:48:05,390
copy and concur expect an automated

834
00:48:08,940 --> 00:48:13,510
foreign

835
00:48:13,520 --> 00:48:19,370
expect nominal shoot deployment altitude

836
00:48:19,380 --> 00:48:25,849
supplies

837
00:48:30,950 --> 00:48:28,309
well Jesse it is absolutely phenomenal

838
00:48:33,109 --> 00:48:30,960

to hear from the crew on the other side

839

00:48:34,849 --> 00:48:33,119

of that Communications blackout period

840

00:48:37,309 --> 00:48:34,859

We are continuing to get these great

841

00:48:39,770 --> 00:48:37,319

views from the wb-57 High Altitude

842

00:48:43,010 --> 00:48:39,780

aircraft providing that thermal imagery

843

00:48:44,710 --> 00:48:43,020

we did even see the tale of Entry of the

844

00:48:51,349 --> 00:48:44,720

vehicle and it's just absolutely

845

00:48:57,109 --> 00:48:53,750

we did hear a call up to the crew that

846

00:48:59,569 --> 00:48:57,119

they are expecting the automated drogue

847

00:49:01,370 --> 00:48:59,579

deployment so we're just standing by for

848

00:49:07,670 --> 00:49:01,380

confirmation that dragon's shoots have

849

00:49:15,230 --> 00:49:09,770

again there will be a set

850

00:49:15,240 --> 00:49:21,290

s

851
00:49:26,089 --> 00:49:23,990
for here communicating with the crew

852
00:49:28,069 --> 00:49:26,099
giving them a heads up that they should

853
00:49:29,089 --> 00:49:28,079
feel the drug shoots deploying here

854
00:49:32,210 --> 00:49:29,099
shortly

855
00:49:37,010 --> 00:49:32,220
followed by the main shoots just about a

856
00:49:43,010 --> 00:49:40,430
the the drug shoots do help to slow the

857
00:49:46,010 --> 00:49:43,020
vehicle down to about 350 miles per hour

858
00:49:48,890 --> 00:49:46,020
whereas the main shoots will deploy

859
00:49:50,329 --> 00:49:48,900
after the main shoots deploy it will

860
00:49:52,430 --> 00:49:50,339
slow the vehicle down even more and by

861
00:50:01,270 --> 00:49:52,440
the time that the vehicle splashes down

862
00:50:01,280 --> 00:50:09,670
foreign

863
00:50:23,329 --> 00:50:11,809

shoots and you can hear the crowd here

864

00:50:29,170 --> 00:50:25,370

drug shoot descent rate nominal and

865

00:50:29,180 --> 00:50:39,170

Freedom copies

866

00:50:45,050 --> 00:50:41,930

very cool view of dragon with the two

867

00:50:49,920 --> 00:50:45,060

draw shoots we are just anticipating the

868

00:50:49,930 --> 00:51:07,010

[Applause]

869

00:51:12,290 --> 00:51:09,049

main shoot descent rate nominal Visual

870

00:51:26,230 --> 00:51:13,990

foreign

871

00:51:32,630 --> 00:51:29,030

and great news as you can see there the

872

00:51:36,109 --> 00:51:32,640

main shoots have deployed slowing the

873

00:51:40,810 --> 00:51:36,119

dragon vehicle down significantly

874

00:51:52,069 --> 00:51:40,820

down to approximately 119 miles per hour

875

00:51:56,870 --> 00:51:54,109

a dragon has saved all propulsion

876

00:51:59,809 --> 00:51:56,880

systems and is now terminating the

877

00:52:05,270 --> 00:51:59,819

nitrox suit and cabin purges and is

878

00:52:05,280 --> 00:52:10,609

copy 800.

879

00:52:15,950 --> 00:52:13,190

dragon is beginning to increase pressure

880

00:52:18,170 --> 00:52:15,960

in preparation for landing and Mission

881

00:52:20,329 --> 00:52:18,180

Control the mission control team here in

882

00:52:22,910 --> 00:52:20,339

Hawthorne is reporting

883

00:52:27,530 --> 00:52:22,920

the precise Landing coordinates to the

884

00:52:38,990 --> 00:52:29,690

so we did get that confirmation on the

885

00:52:43,910 --> 00:52:41,450

the crew is now 600 meters away from

886

00:52:52,370 --> 00:52:43,920

splashing down we do expect splash down

887

00:52:56,930 --> 00:52:54,950

landing and water is simpler therefore

888

00:53:00,470 --> 00:52:56,940

more reliable and it provides more

889

00:53:00,480 --> 00:53:04,490

copy four

890

00:53:08,630 --> 00:53:06,650

provides more margin against unlikely

891

00:53:11,510 --> 00:53:08,640

parachute issues we had to learn how to

892

00:53:14,990 --> 00:53:11,520

make dragon waterproof but once you do

893

00:53:17,450 --> 00:53:15,000

it is a rinse review and reuse type of

894

00:53:20,089 --> 00:53:17,460

process and we are just about a minute

895

00:53:22,370 --> 00:53:20,099

away from Splashdown of the Dragon

896

00:53:24,710 --> 00:53:22,380

vehicle back onto planet Earth and

897

00:53:28,609 --> 00:53:24,720

hearing good call outs of the altitude

898

00:53:31,190 --> 00:53:28,619

of dragons at 200 meters

899

00:53:33,290 --> 00:53:31,200

copy brace for Splashdown

900

00:53:35,030 --> 00:53:33,300

and again that descent rate is as

901
00:53:37,490 --> 00:53:35,040
expected here pretty soon we should be

902
00:53:40,730 --> 00:53:37,500
able to see the view of the ocean come

903
00:53:43,010 --> 00:53:40,740
into view as crew Dragon Freedom with

904
00:53:46,670 --> 00:53:43,020
four astronauts on board prepares to

905
00:53:58,790 --> 00:53:46,680
splash down after spending 170 days in

906
00:54:17,390 --> 00:54:13,609
[Applause]

907
00:54:24,530 --> 00:54:17,400
let's grab those biodes for three or

908
00:54:24,540 --> 00:54:28,510
welcome

909
00:54:35,930 --> 00:54:32,270
home crew four great view watching

910
00:54:37,849 --> 00:54:35,940
Dragon splash down back on planet Earth

911
00:54:40,010 --> 00:54:37,859
now as you can see on your screen we

912
00:54:41,809 --> 00:54:40,020
have visual confirmation for a

913
00:54:44,450 --> 00:54:41,819

Splashdown of the Dragon spacecraft

914

00:54:47,270 --> 00:54:44,460

Dragon Freedom has returned home in NASA

915

00:54:49,430 --> 00:54:47,280

astronauts shell Bob Jessica and yes

916

00:54:53,809 --> 00:54:49,440

okay that's pretty dumb we are water

917

00:54:59,630 --> 00:54:56,510

puppy Freedom we see stable one you are

918

00:55:01,609 --> 00:54:59,640

go for four decimal 800. and on behalf

919

00:55:07,750 --> 00:55:01,619

of SpaceX welcome home thanks for

920

00:55:13,970 --> 00:55:11,569

and uh SpaceX uh from Freedom thank you

921

00:55:25,549 --> 00:55:13,980

for incredible right up to orbit and an

922

00:55:30,049 --> 00:55:27,589

as you can see Dragon Freedom has

923

00:55:33,049 --> 00:55:30,059

returned home and NASA astronauts ciao

924

00:55:35,510 --> 00:55:33,059

Bob and Jessica and Esa astronaut

925

00:55:38,030 --> 00:55:35,520

Samantha are back on Earth after an

926
00:55:40,730 --> 00:55:38,040
approximately five hour return Journey

927
00:55:42,410 --> 00:55:40,740
from space these SpaceX recovery ship

928
00:55:44,150 --> 00:55:42,420
and team has been waiting for Dragon

929
00:55:46,670 --> 00:55:44,160
Splashdown and they will now make their

930
00:55:49,130 --> 00:55:46,680
way to these Splashdown locations

931
00:55:51,410 --> 00:55:49,140
and we did hear the call out that the

932
00:55:53,030 --> 00:55:51,420
vehicle is in stable one that's the

933
00:55:55,010 --> 00:55:53,040
configuration that we're hoping for

934
00:55:57,530 --> 00:55:55,020
stable one means it's in the ocean

935
00:56:00,349 --> 00:55:57,540
upright as expected and you can see that

936
00:56:02,329 --> 00:56:00,359
exactly on your screen here so the teams

937
00:56:04,490 --> 00:56:02,339
have been ready and waiting about three

938
00:56:06,770 --> 00:56:04,500

nautical miles away so it's going to

939

00:56:08,930 --> 00:56:06,780

take them about 30 minutes or so to make

940

00:56:12,650 --> 00:56:08,940

their way to ciao Bob Jessica and

941

00:56:14,690 --> 00:56:12,660

Samantha inside but about a minute and

942

00:56:17,270 --> 00:56:14,700

30 seconds after

943

00:56:20,630 --> 00:56:17,280

um The Landing Mission Control Hawthorne

944

00:56:22,910 --> 00:56:20,640

will give the go for Final Approach and

945

00:56:25,670 --> 00:56:22,920

the safe approach and then about two

946

00:56:28,010 --> 00:56:25,680

minutes after landing the approach vote

947

00:56:30,890 --> 00:56:28,020

will begin those inspections that we

948

00:56:33,230 --> 00:56:30,900

discussed earlier that's just to ensure

949

00:56:35,329 --> 00:56:33,240

that everything is as expected with the

950

00:56:36,890 --> 00:56:35,339

vehicle let's dragon

951
00:56:44,210 --> 00:56:36,900
completely

952
00:56:49,370 --> 00:56:46,970
hey thanks copies Dragon for awareness

953
00:56:51,049 --> 00:56:49,380
Palm is a little bit choppy but we copy

954
00:56:53,809 --> 00:56:51,059
that you are complete with four decimal

955
00:56:55,130 --> 00:56:53,819
800 and awaiting recovery Personnel I

956
00:57:04,490 --> 00:56:55,140
will provide an update on recovery

957
00:57:31,549 --> 00:57:07,130
standing by

958
00:57:37,130 --> 00:57:34,370
Mission Control here in Hawthorne did

959
00:57:41,990 --> 00:57:37,140
give the go for that approach and

960
00:57:42,000 --> 00:57:55,549
foreign

961
00:58:01,130 --> 00:57:58,370
and so here shortly we should be able to

962
00:58:04,370 --> 00:58:01,140
get some views of the fast boats as they

963
00:58:11,520 --> 00:58:04,380

approach uh the dragon Freedom with the

964

00:58:11,530 --> 00:58:18,049

[Music]

965

00:58:18,059 --> 00:58:21,970

foreign

966

00:58:26,750 --> 00:58:24,589

SpaceX is go for Recovery Personnel to

967

00:58:47,170 --> 00:58:26,760

approach expect Personnel alongside

968

00:58:51,589 --> 00:58:49,549

and there you are getting a view of

969

00:58:55,010 --> 00:58:51,599

those fast boats as they approach the

970

00:58:59,329 --> 00:58:57,170

they will essentially be doing some

971

00:59:02,690 --> 00:58:59,339

safety checks making sure that all the

972

00:59:04,730 --> 00:59:02,700

ordinances and Hyper Galls are not

973

00:59:06,710 --> 00:59:04,740

present or in the area immediately

974

00:59:08,990 --> 00:59:06,720

around the vehicle and they'll also

975

00:59:11,210 --> 00:59:09,000

perform Enix an inspection of the

976
00:59:13,490 --> 00:59:11,220
capsule itself to make sure that

977
00:59:15,650 --> 00:59:13,500
Integrity wise it is looking good

978
00:59:19,849 --> 00:59:15,660
you are seeing that very first fast boat

979
00:59:23,690 --> 00:59:21,530
and they really want to do these

980
00:59:26,690 --> 00:59:23,700
inspections to make sure that everything

981
00:59:31,510 --> 00:59:26,700
is looking good before they do hoist it

982
00:59:36,650 --> 00:59:33,710
so it will take a little bit of time

983
00:59:38,270 --> 00:59:36,660
before we do see the crew egress or exit

984
00:59:40,549 --> 00:59:38,280
the capsule

985
00:59:42,410 --> 00:59:40,559
we're shooting for less than an hour to

986
00:59:59,210 --> 00:59:42,420
bring the dragon onto the recovery ship

987
01:00:04,130 --> 01:00:01,789
once these checkouts are complete you'll

988
01:00:06,770 --> 01:00:04,140

see a member of the recovery team

989

01:00:10,840 --> 01:00:06,780

actually climb on board the capsule

990

01:00:15,349 --> 01:00:10,850

creative SpaceX for camera configuration

991

01:00:39,460 --> 01:00:17,569

we are looking for permission to come on

992

01:00:39,470 --> 01:00:47,030

[Music]

993

01:00:47,040 --> 01:00:56,410

foreign

994

01:01:14,829 --> 01:00:58,549

we are back on board with the display

995

01:01:20,690 --> 01:01:17,990

and getting some waves from the crew

996

01:01:22,609 --> 01:01:20,700

onboard Freedom post splash down looks

997

01:01:26,950 --> 01:01:22,619

like they're doing pretty well first

998

01:01:30,230 --> 01:01:26,960

time feeling uh gravity in 170 days

999

01:01:33,170 --> 01:01:30,240

it looks like they're waving uh to the

1000

01:01:36,829 --> 01:01:33,180

world technically the crew will remain

1001

01:01:54,109 --> 01:01:36,839

in their seats all the way until they

1002

01:01:59,809 --> 01:01:57,049

now we do expect to hear some words from

1003

01:02:01,910 --> 01:01:59,819

NASA's Brandy Dean who is actually on

1004

01:02:04,910 --> 01:02:01,920

the recovery ship and was able to

1005

01:02:06,950 --> 01:02:04,920

witness the re-entry and splash down of

1006

01:02:08,630 --> 01:02:06,960

crew Dragon Freedom Brandy if you're

1007

01:02:10,670 --> 01:02:08,640

able to hear us can you tell us a little

1008

01:02:13,190 --> 01:02:10,680

bit about what it was like to witness

1009

01:02:14,809 --> 01:02:13,200

four humans return to Earth after their

1010

01:02:17,390 --> 01:02:14,819

mission aboard the International Space

1011

01:02:17,400 --> 01:02:21,180

foreign

1012

01:03:00,549 --> 01:02:33,390

[Music]

1013

01:03:05,450 --> 01:03:03,230

so it's been a really great day so far

1014

01:03:08,390 --> 01:03:05,460

from the sports being the group here on

1015

01:03:10,069 --> 01:03:08,400

board too that's wonderful to hear

1016

01:03:12,170 --> 01:03:10,079

Brandy can you tell us a little bit

1017

01:03:13,670 --> 01:03:12,180

about what the crew is doing and is done

1018

01:03:14,930 --> 01:03:13,680

to prepare for this moment from your

1019

01:03:36,250 --> 01:03:14,940

perspective as you've been on the

1020

01:03:36,260 --> 01:03:44,410

We've Got You Brandi here I'll repeat it

1021

01:03:49,849 --> 01:03:47,650

the rigging is in process progress

1022

01:03:53,450 --> 01:03:49,859

approximately two five minutes until

1023

01:03:57,250 --> 01:03:53,460

capsule lift standby for PFC with SpaceX

1024

01:04:02,150 --> 01:04:00,349

okay Freedom copies all hyper adults

1025

01:04:06,490 --> 01:04:02,160

checks are passed uh and we're about 25

1026

01:04:10,730 --> 01:04:09,109

so Brandi if you're still with us we did

1027

01:04:13,849 --> 01:04:10,740

just hear that all of those hyper gold

1028

01:04:15,950 --> 01:04:13,859

checks went as expected and we can see

1029

01:04:17,270 --> 01:04:15,960

um that the rigging has begun I'm sure

1030

01:04:19,190 --> 01:04:17,280

you have a much better view of it

1031

01:04:21,349 --> 01:04:19,200

yourself on the boat but can you tell us

1032

01:04:23,510 --> 01:04:21,359

a little bit more about what the crew on

1033

01:04:26,210 --> 01:04:23,520

the boat is doing to get ready for the

1034

01:04:26,460 --> 01:04:26,220

next steps to bring the capsule onto the

1035

01:04:29,329 --> 01:04:26,470

boat

1036

01:04:32,210 --> 01:04:29,339

[Applause]

1037

01:04:36,470 --> 01:04:34,609

and it sounds like we may have lost uh

1038

01:04:38,870 --> 01:04:36,480

Brandi they are out at Sea so

1039

01:04:41,270 --> 01:04:38,880

Communications can be a bit spotty we

1040

01:04:44,030 --> 01:04:41,280

might be able to join back with her a

1041

01:04:45,650 --> 01:04:44,040

bit later but you are seeing right now

1042

01:04:47,990 --> 01:04:45,660

um someone on the capsule they are doing

1043

01:04:49,549 --> 01:04:48,000

what is called rigging you see that

1044

01:04:51,950 --> 01:04:49,559

they're tossing um some different

1045

01:04:55,069 --> 01:04:51,960

equipment up to them and that's to

1046

01:04:56,750 --> 01:04:55,079

ensure that the vehicle is ready SpaceX

1047

01:04:58,849 --> 01:04:56,760

I'll be privatizing driving to ground

1048

01:05:00,410 --> 01:04:58,859

now the next call you hear will be from

1049

01:05:04,089 --> 01:05:00,420

the SpaceX flight surgeon on the

1050

01:05:04,099 --> 01:05:08,770

Freedom copies

1051

01:05:14,270 --> 01:05:11,930

and so those call outs about a private

1052

01:05:16,849 --> 01:05:14,280

medical conference just to ensure that

1053

01:05:18,589 --> 01:05:16,859

the crew is all feeling healthy and if

1054

01:05:21,230 --> 01:05:18,599

there's anything that they may need

1055

01:05:23,630 --> 01:05:21,240

medically wise once they do get on the

1056

01:05:24,470 --> 01:05:23,640

boat uh that is of course privatized for

1057

01:05:27,289 --> 01:05:24,480

medical

1058

01:05:29,210 --> 01:05:27,299

um and person personal reasons but we

1059

01:05:31,670 --> 01:05:29,220

are continuing to get really great views

1060

01:05:34,130 --> 01:05:31,680

here of the rigging process as I was

1061

01:05:37,130 --> 01:05:34,140

saying this individual is working to

1062

01:05:39,890 --> 01:05:37,140

secure dragon and enable it to be lifted

1063

01:05:42,410 --> 01:05:39,900

onto the recovery vessel here in just a

1064

01:05:57,770 --> 01:05:42,420

short time from now

1065

01:06:03,410 --> 01:06:01,309

and so once this process is complete the

1066

01:06:06,289 --> 01:06:03,420

next steps will be to hoist up dragon

1067

01:06:07,930 --> 01:06:06,299

and place it onto the boat onto the

1068

01:06:13,490 --> 01:06:07,940

platform

1069

01:06:22,329 --> 01:06:13,500

moved so that the crew can egress a

1070

01:06:27,829 --> 01:06:25,490

and once the crew is on the boat and

1071

01:06:30,470 --> 01:06:27,839

back inside of the capsule they will

1072

01:06:33,170 --> 01:06:30,480

board helicopters that are on the boat

1073

01:06:35,870 --> 01:06:33,180

to bring them back to Ellington Field

1074

01:06:38,630 --> 01:06:35,880

which is near the Johnson Space Center

1075

01:06:41,089 --> 01:06:38,640

in Houston Texas and then they will

1076
01:06:46,490 --> 01:06:41,099
bring European Space Agency astronaut

1077
01:07:12,820 --> 01:06:49,370
what's up

1078
01:07:12,830 --> 01:07:25,029
[Music]

1079
01:07:32,349 --> 01:07:27,829
SpaceX PMC complete and dragon to ground

1080
01:07:32,359 --> 01:07:40,789
thank you

1081
01:07:45,829 --> 01:07:43,670
and it sounds like we do have Brandy

1082
01:07:48,109 --> 01:07:45,839
back with us so Brandi if you can hear

1083
01:07:50,870 --> 01:07:48,119
us can you tell us a little bit about

1084
01:07:54,049 --> 01:07:50,880
what the crew on the vessel is doing to

1085
01:07:55,970 --> 01:07:54,059
prepare for the capsule to be placed um

1086
01:07:58,309 --> 01:07:55,980
onto the boat we did see the the rigging

1087
01:07:59,569 --> 01:07:58,319
that was taking place but I'm sure you

1088
01:08:02,210 --> 01:07:59,579

have a much better view from your

1089

01:08:02,220 --> 01:08:07,569

all right

1090

01:08:12,170 --> 01:08:10,190

from here we can see that uh getting

1091

01:08:14,390 --> 01:08:12,180

your VIPs ready as you said um it sounds

1092

01:08:16,490 --> 01:08:14,400

like you guys already heard

1093

01:08:18,289 --> 01:08:16,500

um kind of a good check from the crew

1094

01:08:19,849 --> 01:08:18,299

sometimes like everyone is doing well on

1095

01:08:22,130 --> 01:08:19,859

board how about you right up here

1096

01:08:23,930 --> 01:08:22,140

earlier it was a beautiful gorgeous

1097

01:08:26,269 --> 01:08:23,940

background with the sun shine behind

1098

01:08:27,890 --> 01:08:26,279

Bears too so everyone here is really

1099

01:08:30,169 --> 01:08:27,900

excited to be getting the crew back on

1100

01:08:31,450 --> 01:08:30,179

board here in the next few minutes

1101

01:08:35,630 --> 01:08:31,460

um

1102

01:08:38,809 --> 01:08:35,640

left around the time of unboxing today

1103

01:08:41,150 --> 01:08:38,819

and then the Napa in Egypt is uh joined

1104

01:08:43,910 --> 01:08:41,160

up by sophomore just a few hours later

1105

01:08:46,669 --> 01:08:43,920

so this has been getting the

1106

01:08:47,930 --> 01:08:46,679

medical room ready it's still down and

1107

01:08:50,329 --> 01:08:47,940

it's going to be really comfortable for

1108

01:08:52,789 --> 01:08:50,339

the crew I think it's been just a little

1109

01:08:55,370 --> 01:08:52,799

time there just as long as it takes for

1110

01:08:59,150 --> 01:08:55,380

the cruise up to making the helicopter

1111

01:09:01,510 --> 01:08:59,160

ride back to dry land so we'll do a few

1112

01:09:03,950 --> 01:09:01,520

Medical Services

1113

01:09:05,870 --> 01:09:03,960

[Music]

1114

01:09:08,630 --> 01:09:05,880

back into their bodies help them

1115

01:09:10,309 --> 01:09:08,640

readjust your gravity a little better uh

1116

01:09:11,870 --> 01:09:10,319

just to bring you a medical checkout so

1117

01:09:13,189 --> 01:09:11,880

let's bring that sort of thing and then

1118

01:09:15,289 --> 01:09:13,199

when they get back to Jacksonville

1119

01:09:18,650 --> 01:09:15,299

that's when the fun really starts with

1120

01:09:21,229 --> 01:09:18,660

the scientific asset or things

1121

01:09:22,550 --> 01:09:21,239

um I've never been hurt including tests

1122

01:09:25,130 --> 01:09:22,560

that will kind of talk a little bit more

1123

01:09:27,590 --> 01:09:25,140

about what's like when we are sending

1124

01:09:30,410 --> 01:09:27,600

Crews to the Moon they'll do things like

1125

01:09:32,150 --> 01:09:30,420

having them step up upstairs and see how

1126

01:09:35,150 --> 01:09:32,160

they're able to handle that having been

1127

01:09:36,650 --> 01:09:35,160

in place for several months and uh get

1128

01:09:38,390 --> 01:09:36,660

on the ground with him like they fall in

1129

01:09:40,189 --> 01:09:38,400

and try and get back up things like that

1130

01:09:42,110 --> 01:09:40,199

that will really help us be sure that

1131

01:09:54,490 --> 01:09:42,120

we're ready when we're sending Crews to

1132

01:10:00,530 --> 01:09:57,229

make sure they're doing well before they

1133

01:10:03,050 --> 01:10:00,540

jump right into their recovery period of

1134

01:10:04,070 --> 01:10:03,060

uh medical tests scientific test and a

1135

01:10:06,830 --> 01:10:04,080

lot of exercise to get some

1136

01:10:08,270 --> 01:10:06,840

reconditioned and used to live back in

1137

01:10:10,729 --> 01:10:08,280

gravity again

1138

01:10:12,890 --> 01:10:10,739

um meanwhile Samantha will be going back

1139

01:10:15,950 --> 01:10:12,900

to Europe I shall so we've pretty much

1140

01:10:18,410 --> 01:10:15,960

right away once they get back to Houston

1141

01:10:20,750 --> 01:10:18,420

thank you so much Brandi for that

1142

01:10:22,370 --> 01:10:20,760

insight and sharing your first hand

1143

01:10:24,470 --> 01:10:22,380

experience of what it was like to

1144

01:10:26,810 --> 01:10:24,480

witness splash down from the recovery

1145

01:10:28,970 --> 01:10:26,820

vessel we really appreciate you taking

1146

01:10:30,890 --> 01:10:28,980

the time to speak with us but we'll let

1147

01:10:51,669 --> 01:10:30,900

you get back to it and enjoy your time

1148

01:10:59,090 --> 01:10:56,030

and as recovery procedures continue as

1149

01:11:02,090 --> 01:10:59,100

expected we did have a Splashdown that

1150

01:11:05,270 --> 01:11:02,100

occurred at 1 55 PM Pacific time this

1151

01:11:07,850 --> 01:11:05,280

afternoon and you do see a wonderful

1152

01:11:11,149 --> 01:11:07,860

photo on the left hand of your screen of

1153

01:11:14,570 --> 01:11:11,159

that Splashdown with the main parachutes

1154

01:11:18,350 --> 01:11:14,580

all deployed really the moment that crew

1155

01:11:22,970 --> 01:11:18,360

Dragon Freedom touched Earth again for

1156

01:11:22,980 --> 01:11:36,310

thank you

1157

01:11:42,830 --> 01:11:39,229

so we do see the recovery vessel

1158

01:11:49,830 --> 01:11:42,840

continue to approach the crew Dragon

1159

01:11:49,840 --> 01:12:00,910

[Music]

1160

01:12:05,750 --> 01:12:03,770

you are seeing on your screen a live

1161

01:12:08,090 --> 01:12:05,760

view inside of the Dragon capsule with

1162

01:12:10,850 --> 01:12:08,100

our crew patiently waiting in their

1163

01:12:14,090 --> 01:12:10,860

seats they will remain harnessed into

1164

01:12:33,830 --> 01:12:14,100

their seats until uh the hatch is

1165

01:12:39,229 --> 01:12:37,189

and we did see the rigging process that

1166

01:12:40,850 --> 01:12:39,239

was taking place a short time ago and

1167

01:12:43,669 --> 01:12:40,860

now we're getting another view of it

1168

01:12:45,470 --> 01:12:43,679

here that person on the capsule is is

1169

01:12:48,830 --> 01:12:45,480

called the rigger and they are working

1170

01:12:52,910 --> 01:12:48,840

to secure Dragon to rigging Hardware to

1171

01:12:58,850 --> 01:12:56,090

and that will be done using that A-frame

1172

01:13:13,370 --> 01:12:58,860

which is the boxy frame that you see

1173

01:13:18,470 --> 01:13:15,290

we are getting some pretty great views

1174

01:13:20,090 --> 01:13:18,480

with this being in the daytime we have

1175

01:13:21,530 --> 01:13:20,100

splashed down in the night time where

1176

01:13:24,169 --> 01:13:21,540

it's a little bit harder to see but

1177

01:13:30,050 --> 01:13:24,179

today we've got some light and get to

1178

01:13:40,669 --> 01:13:32,090

looks like a really beautiful day out

1179

01:13:45,649 --> 01:13:42,890

now I am hoping that we will have the

1180

01:13:47,390 --> 01:13:45,659

chance to see the rigor jump off of the

1181

01:14:01,189 --> 01:13:47,400

vehicle that's always one of my favorite

1182

01:14:06,169 --> 01:14:03,709

we are now excitedly awaiting the

1183

01:14:09,649 --> 01:14:06,179

recovery of our Dragon spacecraft with

1184

01:14:12,950 --> 01:14:09,659

NASA astronauts show Bob Jessica and Esa

1185

01:14:14,630 --> 01:14:12,960

astronaut Samantha inside dragon has

1186

01:14:16,850 --> 01:14:14,640

already autonomous autonomously

1187

01:14:18,830 --> 01:14:16,860

completed several steps to Safe itself

1188

01:14:20,810 --> 01:14:18,840

following Splashdown

1189

01:14:23,149 --> 01:14:20,820

now for those of you just joining us the

1190

01:14:25,010 --> 01:14:23,159

mission has gone smoothly so far Dragon

1191

01:14:26,510 --> 01:14:25,020

successfully splashed down in the

1192

01:14:29,930 --> 01:14:26,520

Atlantic Ocean off the coast of

1193

01:14:31,130 --> 01:14:29,940

Jacksonville Florida at 1 55 PM Pacific

1194

01:14:33,470 --> 01:14:31,140

time

1195

01:14:36,410 --> 01:14:33,480

approximately five hours before

1196

01:14:38,689 --> 01:14:36,420

Splashdown dragon autonomously undocked

1197

01:14:40,790 --> 01:14:38,699

from the International Space Station and

1198

01:14:44,930 --> 01:14:40,800

completed a series of departure burns

1199

01:14:47,630 --> 01:14:44,940

the the trunk was then jettisoned and

1200

01:14:49,790 --> 01:14:47,640

the final burn the deorbit burn was

1201

01:14:52,310 --> 01:14:49,800

completed to place dragon on a

1202

01:14:54,530 --> 01:14:52,320

trajectory toward Jacksonville Florida

1203

01:14:56,390 --> 01:14:54,540

Dragon successfully re-entered the

1204

01:14:58,970 --> 01:14:56,400

Earth's atmosphere followed by

1205

01:15:01,189 --> 01:14:58,980

deployment of its parachutes to slow the

1206

01:15:04,010 --> 01:15:01,199

spacecraft down to a gentle Splashdown

1207

01:15:05,990 --> 01:15:04,020

and we saw that moments ago just a few

1208

01:15:08,090 --> 01:15:06,000

minutes ago rather and we had a really

1209

01:15:10,130 --> 01:15:08,100

gorgeous views of it so we're now

1210

01:15:12,530 --> 01:15:10,140

following the final part of Chell Bob

1211

01:15:14,570 --> 01:15:12,540

Jessica and Samantha's journey is dragon

1212

01:15:18,169 --> 01:15:14,580

is going to be lifted out of the water

1213

01:15:20,270 --> 01:15:18,179

and placed on the recovery boat

1214

01:15:23,689 --> 01:15:20,280

upon detection of Landing Dragon

1215

01:15:25,550 --> 01:15:23,699

autonomously releases the main shoots to

1216

01:15:29,229 --> 01:15:25,560

prevent wind from pooling the spacecraft

1217

01:15:31,610 --> 01:15:29,239

Dragon then automatically saves any

1218

01:15:33,950 --> 01:15:31,620

pyrotechnic still present on the vehicle

1219

01:15:36,290 --> 01:15:33,960

and may automatically perform additional

1220

01:15:38,689 --> 01:15:36,300

minor system reconfigurations

1221

01:15:41,090 --> 01:15:38,699

the astronauts remain seated and in

1222

01:15:43,430 --> 01:15:41,100

their seats and in their suits as well

1223

01:15:45,229 --> 01:15:43,440

at this point but the onboard air

1224

01:15:46,910 --> 01:15:45,239

conditioning keeps temperatures in check

1225

01:15:49,130 --> 01:15:46,920

inside of the spacecraft and the

1226

01:15:50,930 --> 01:15:49,140

communication systems on board remain

1227

01:15:54,290 --> 01:15:50,940

powered so that the crew can continue to

1228

01:15:56,450 --> 01:15:54,300

communicate and we did see that motion

1229

01:15:59,149 --> 01:15:56,460

of the A-frame as it was getting ready

1230

01:16:00,770 --> 01:15:59,159

to lift the capsule up and out of the

1231

01:16:03,169 --> 01:16:00,780

water

1232

01:16:05,930 --> 01:16:03,179

now SpaceX does have two fast boats in

1233

01:16:08,930 --> 01:16:05,940

the recovery Fleet which have moved to

1234

01:16:10,910 --> 01:16:08,940

the Splashdown Point already they were

1235

01:16:13,370 --> 01:16:10,920

followed by the main recovery vessel

1236

01:16:16,189 --> 01:16:13,380

which is really getting ready to lift

1237

01:16:18,110 --> 01:16:16,199

the vehicle now at this at this point so

1238

01:16:21,050 --> 01:16:18,120

those two fast boats do have a very

1239

01:16:22,790 --> 01:16:21,060

specific role the first is to the first

1240

01:16:25,010 --> 01:16:22,800

approach is focused on immediate safety

1241

01:16:27,290 --> 01:16:25,020

inspection of the capsule integrity and

1242

01:16:29,450 --> 01:16:27,300

checking for any presence of hypergolic

1243

01:16:31,250 --> 01:16:29,460

propellant Vapors ensuring that it is

1244

01:16:33,649 --> 01:16:31,260

safe for the recovery vessel to approach

1245

01:16:36,350 --> 01:16:33,659

the dragon spacecraft all of those

1246

01:16:38,270 --> 01:16:36,360

checks performed well and once the

1247

01:16:40,250 --> 01:16:38,280

spacecraft is cleared for full approach

1248

01:16:43,130 --> 01:16:40,260

the team begins rigging the capsule for

1249

01:16:46,130 --> 01:16:43,140

water recovery by the recovery ship that

1250

01:16:48,290 --> 01:16:46,140

process is underway and just wrapped up

1251

01:16:50,510 --> 01:16:48,300

and then the second vote is really

1252

01:16:54,410 --> 01:16:50,520

responsible for a parachute recovery and

1253

01:16:56,870 --> 01:16:54,420

serves as a redundant boat to the first

1254

01:16:58,370 --> 01:16:56,880

we'll also see a team member on a jet

1255

01:17:00,890 --> 01:16:58,380

ski helping to gather up the now

1256

01:17:02,390 --> 01:17:00,900

detached parachutes and it looks like um

1257

01:17:03,830 --> 01:17:02,400

they may have already completed that

1258

01:17:06,470 --> 01:17:03,840

process I'm not seeing them they might

1259

01:17:09,410 --> 01:17:06,480

be just off the screen

1260

01:17:11,510 --> 01:17:09,420

I took a little over 10 minutes for the

1261

01:17:13,550 --> 01:17:11,520

recovery crew to complete their safety

1262

01:17:24,169 --> 01:17:13,560

checks and once they did complete that

1263

01:17:29,510 --> 01:17:26,090

working is complete please brace for

1264

01:17:29,520 --> 01:17:36,310

foreign

1265

01:17:40,729 --> 01:17:38,930

preparations for rigging have been

1266

01:17:44,100 --> 01:17:40,739

completed with that confirmation of the

1267

01:17:45,410 --> 01:17:44,110

comms there so we should see dragon

1268

01:17:48,290 --> 01:17:45,420

[Applause]

1269

01:17:59,570 --> 01:17:48,300

start to lift out of the water here in

1270

01:18:04,189 --> 01:18:02,090

and the recovery teams are now preparing

1271

01:18:07,970 --> 01:18:04,199

to lower the vessel's hydraulic lift

1272

01:18:10,430 --> 01:18:07,980

mechanism into the water to bring the

1273

01:18:13,250 --> 01:18:10,440

spacecraft into the on Deck translation

1274

01:18:16,310 --> 01:18:13,260

system known as the deck Dragon will

1275

01:18:18,530 --> 01:18:16,320

remain in known as the nest and dragon

1276

01:18:20,209 --> 01:18:18,540

will remain in this Nest during the crew

1277

01:18:24,709 --> 01:18:20,219

extraction and then for the journey back

1278

01:18:29,870 --> 01:18:27,290

so here momentarily we will see the

1279

01:18:32,630 --> 01:18:29,880

capsule being lifted and set on The Nest

1280

01:18:35,330 --> 01:18:32,640

it will then be centered and oriented

1281

01:18:37,370 --> 01:18:35,340

and then translated into the hanger

1282

01:18:41,870 --> 01:18:37,380

underneath the helipad aboard the ship

1283

01:18:46,550 --> 01:18:44,330

and once open a SpaceX medical doctor

1284

01:18:49,310 --> 01:18:46,560

will be the first one to check in on

1285

01:18:50,870 --> 01:18:49,320

Chell Bob Jessica and Samantha and see

1286

01:18:54,110 --> 01:18:50,880

if they are ready for egress or getting

1287

01:19:02,090 --> 01:18:54,120

out and you see that motion underway now

1288

01:19:02,100 --> 01:19:05,950

foreign

1289

01:19:10,610 --> 01:19:09,169
as we lift the dragon vehicle and you

1290

01:19:18,470 --> 01:19:10,620
can see the nest there that it's going

1291

01:19:22,250 --> 01:19:21,110
all dragon's top hatch is used to

1292

01:19:24,590 --> 01:19:22,260
connect the

1293

01:19:26,930 --> 01:19:24,600
connect to these space station the

1294

01:19:27,890 --> 01:19:26,940
astronauts will egress from the dragon's

1295

01:19:30,410 --> 01:19:27,900
side hatch

1296

01:19:31,130 --> 01:19:30,420
uh pending capsule orientation in the

1297

01:19:32,990 --> 01:19:31,140
water

1298

01:19:34,729 --> 01:19:33,000
now before opening the hatch the

1299

01:19:36,590 --> 01:19:34,739
spacecraft's cabin pressure must be

1300

01:19:39,229 --> 01:19:36,600
equalized with the outside environment

1301

01:19:41,750 --> 01:19:39,239

once the hatch is opened that will be

1302

01:19:43,850 --> 01:19:41,760

the crew's first breath of fresh air

1303

01:19:45,750 --> 01:19:43,860

since boarding Dragon at the start of

1304

01:19:49,790 --> 01:19:45,760

their mission back in April

1305

01:19:54,709 --> 01:19:52,669

so it is important to note that Chell

1306

01:19:56,450 --> 01:19:54,719

Bob Jessica and Samantha will be getting

1307

01:19:58,850 --> 01:19:56,460

some assistance from the recovery team

1308

01:20:00,470 --> 01:19:58,860

while they are exiting the capsule this

1309

01:20:02,570 --> 01:20:00,480

is the same process for any returning

1310

01:20:04,790 --> 01:20:02,580

long duration crew members as returning

1311

01:20:06,709 --> 01:20:04,800

to a gravity environment can wreck havoc

1312

01:20:09,830 --> 01:20:06,719

with our vestibular system responsible

1313

01:20:12,229 --> 01:20:09,840

for maintaining balance in motion and of

1314

01:20:15,050 --> 01:20:12,239

course safety is always our number one

1315

01:20:16,970 --> 01:20:15,060

priority so you'll see Chell Bob Jessica

1316

01:20:19,430 --> 01:20:16,980

and Samantha helped out of the capsule

1317

01:20:21,530 --> 01:20:19,440

and assisted the few feet to the medical

1318

01:20:23,450 --> 01:20:21,540

quarters aboard the boat

1319

01:20:25,550 --> 01:20:23,460

and if you've ever watched Cruise return

1320

01:20:27,410 --> 01:20:25,560

on a soyuz mission this is the same

1321

01:20:29,630 --> 01:20:27,420

process as when astronauts are carried

1322

01:20:32,030 --> 01:20:29,640

from the capsule to waiting chairs and

1323

01:20:34,010 --> 01:20:32,040

then carried to a waiting medical tent

1324

01:20:37,310 --> 01:20:34,020

so it looks like we are getting views

1325

01:20:42,530 --> 01:20:37,320

now of dragon in the nest successfully

1326

01:20:48,590 --> 01:20:45,169

and so once the crew egresses the

1327

01:20:50,510 --> 01:20:48,600

capsule this is a period where any time

1328

01:20:53,149 --> 01:20:50,520

critical cargo can also be recovered

1329

01:20:55,250 --> 01:20:53,159

from the spacecraft with the remainder

1330

01:20:57,169 --> 01:20:55,260

waiting Freedom SpaceX well welcome

1331

01:20:58,610 --> 01:20:57,179

aboard the recovery vessel recovery

1332

01:21:00,890 --> 01:20:58,620

Personnel are going to be completing

1333

01:21:19,310 --> 01:21:00,900

final checks and standby for translation

1334

01:21:24,470 --> 01:21:21,890

great news there as Dragon sits in the

1335

01:21:26,810 --> 01:21:24,480

nest there and you did hear some comms

1336

01:21:29,149 --> 01:21:26,820

what they're going to do is once they

1337

01:21:32,870 --> 01:21:29,159

de-rigged this they will slide the

1338

01:21:36,770 --> 01:21:32,880

dragon vehicle to a platform where the

1339

01:21:41,030 --> 01:21:36,780

astronauts can easily exit uh that side

1340

01:21:41,040 --> 01:22:05,209

foreign

1341

01:22:11,030 --> 01:22:07,850

and for those of you that might be just

1342

01:22:13,010 --> 01:22:11,040

joining us we did have crew for

1343

01:22:14,630 --> 01:22:13,020

successfully undock from the

1344

01:22:18,290 --> 01:22:14,640

International Space Station just about

1345

01:22:21,470 --> 01:22:18,300

five hours ago and they splashed down at

1346

01:22:25,130 --> 01:22:21,480

1 55 PM Pacific time

1347

01:22:28,070 --> 01:22:25,140

all went as expected through the deorbit

1348

01:22:32,270 --> 01:22:28,080

burn and the parachutes deployed as

1349

01:22:35,090 --> 01:22:32,280

expected the capsule is now lifted onto

1350

01:22:37,850 --> 01:22:35,100

the boat and we are standing by for the

1351

01:22:40,910 --> 01:22:37,860

translation to occur and once that

1352

01:22:44,270 --> 01:22:40,920

translation moves the Dragon capsule up

1353

01:22:46,550 --> 01:22:44,280

underneath the helicopter pad the

1354

01:22:47,930 --> 01:22:46,560

recovery team will then be able to work

1355

01:22:50,689 --> 01:22:47,940

on

1356

01:23:00,050 --> 01:22:50,699

opening up the hatch and removing the

1357

01:23:00,060 --> 01:23:53,149

foreign

1358

01:23:58,430 --> 01:23:55,910

crew forged splash down just about 30

1359

01:24:00,410 --> 01:23:58,440

minutes ago and is now already on the

1360

01:24:06,290 --> 01:24:00,420

recovery vessel

1361

01:24:09,530 --> 01:24:06,300

named Megan after Crew 2 astronaut Megan

1362

01:24:16,010 --> 01:24:11,209

so we are standing by for that

1363

01:24:20,030 --> 01:24:17,750

you'd see on the recovery vessel the

1364

01:24:22,130 --> 01:24:20,040

platform that they will translate the

1365

01:24:25,729 --> 01:24:22,140

dragon vehicle to

1366

01:24:28,250 --> 01:24:25,739

to saw the view earlier the hatch is uh

1367

01:24:31,910 --> 01:24:28,260

slightly above ground level so that

1368

01:24:39,229 --> 01:24:31,920

platform will allow the crew to exit the

1369

01:24:45,050 --> 01:24:41,810

again if you are just now joining us the

1370

01:24:48,590 --> 01:24:45,060

crew 4 crew is now back on planet Earth

1371

01:24:50,630 --> 01:24:48,600

they are still inside of their seats and

1372

01:24:57,709 --> 01:24:50,640

Suits inside of that Dragon capsule that

1373

01:25:04,070 --> 01:25:00,410

and so after this translation maneuver

1374

01:25:05,810 --> 01:25:04,080

occurs the next steps will be for the

1375

01:25:07,729 --> 01:25:05,820

folks on the recovery vessel that are

1376

01:25:11,149 --> 01:25:07,739

specialized in opening up that side

1377

01:25:12,290 --> 01:25:11,159

hatch that will begin that process now

1378

01:25:14,570 --> 01:25:12,300

we have mentioned that we do have

1379

01:25:16,669 --> 01:25:14,580

medical doctors on board that will help

1380

01:25:19,430 --> 01:25:16,679

take care of the crew after the hatch

1381

01:25:22,310 --> 01:25:19,440

opening and will conduct a series of

1382

01:25:24,470 --> 01:25:22,320

initial checks before they are flown by

1383

01:25:26,390 --> 01:25:24,480

helicopter back to shore

1384

01:25:28,570 --> 01:25:26,400

the recovery vessel as you can imagine

1385

01:25:32,030 --> 01:25:28,580

takes quite a bit of time to get out

1386

01:25:33,290 --> 01:25:32,040

into the Splashdown zone so the crew is

1387

01:25:36,470 --> 01:25:33,300

flown

1388

01:25:39,770 --> 01:25:36,480

um off of the vehicle on helicopters and

1389

01:25:42,290 --> 01:25:39,780

then take aircraft and flight

1390

01:25:44,750 --> 01:25:42,300

um Back Home to Houston for our three

1391

01:25:47,209 --> 01:25:44,760

NASA astronauts on board and then for

1392

01:25:48,830 --> 01:25:47,219

our ESA astronaut on board Samantha

1393

01:25:55,250 --> 01:25:48,840

Christopher ready she'll head back to

1394

01:25:59,450 --> 01:25:57,950

and the crew has been out in space on

1395

01:26:02,330 --> 01:25:59,460

the International Space Station for

1396

01:26:04,910 --> 01:26:02,340

about six months they do get to work out

1397

01:26:08,270 --> 01:26:04,920

while they're out on the space station

1398

01:26:10,070 --> 01:26:08,280

working out in microgravity but that is

1399

01:26:12,470 --> 01:26:10,080

why the medical team is there to make

1400

01:26:15,530 --> 01:26:12,480

sure that they are safe and healthy make

1401

01:26:18,050 --> 01:26:15,540

sure that they are able to adjust to

1402

01:26:20,990 --> 01:26:18,060

gravity uh it's probably a pretty big

1403

01:26:24,290 --> 01:26:21,000

adjustment being uh gone from Gravity

1404

01:26:26,270 --> 01:26:24,300

for such a long period of time so the

1405

01:26:28,189 --> 01:26:26,280

medical team will be there to make sure

1406

01:26:30,709 --> 01:26:28,199

that they can exit the vehicle safely

1407

01:26:32,090 --> 01:26:30,719

and then we'll do some uh private

1408

01:26:38,750 --> 01:26:32,100

medical checks with each of the

1409

01:26:45,229 --> 01:26:41,870

and I'm loving these views here of the

1410

01:26:47,629 --> 01:26:45,239

recovery vessel we don't often get to

1411

01:26:51,590 --> 01:26:47,639

see this because sometimes uh it is

1412

01:26:53,629 --> 01:26:51,600

nighttime uh depending on uh when

1413

01:26:56,030 --> 01:26:53,639

undocking and Splashdown does happen for

1414

01:26:59,450 --> 01:26:56,040

the crew members so this is a pretty

1415

01:27:01,729 --> 01:26:59,460

nice treat to get to see this great View

1416

01:27:03,470 --> 01:27:01,739

and you can see the helicopter pad on

1417

01:27:05,570 --> 01:27:03,480

top of the recover vessel there that

1418

01:27:07,910 --> 01:27:05,580

Sandra was mentioning there will be a

1419

01:27:11,629 --> 01:27:07,920

helicopter that comes and lands there

1420

01:27:13,550 --> 01:27:11,639

shortly once the crew is or has egressed

1421

01:27:18,530 --> 01:27:13,560

the dragon vehicle and is ready to fly

1422

01:27:22,430 --> 01:27:18,540

back to land and then take a another

1423

01:27:29,810 --> 01:27:22,440

flight on a plane to Houston with

1424

01:27:58,970 --> 01:27:31,610

and it looks like we are seeing that

1425

01:28:03,950 --> 01:28:01,550

and coming up next once this translation

1426

01:28:07,729 --> 01:28:03,960

maneuver is complete

1427

01:28:08,240 --> 01:28:07,739

crew on board will begin to open up that

1428

01:28:24,410 --> 01:28:08,250

side hatch

1429

01:28:24,420 --> 01:28:29,510

eight minutes

1430

01:28:34,669 --> 01:28:32,209

and as you can see from this view inside

1431

01:28:38,030 --> 01:28:34,679

crew Dragon freedom

1432

01:28:41,209 --> 01:28:38,040

it looks like the crew does have their

1433

01:28:43,850 --> 01:28:41,219

visors it's kind of hard to tell from

1434

01:28:46,070 --> 01:28:43,860

this angle if they're up or down but

1435

01:28:48,110 --> 01:28:46,080

when they egress from the capsule we do

1436

01:28:51,350 --> 01:28:48,120

expect those visors to be up it'll be

1437

01:29:00,169 --> 01:28:51,360

their first breath of fresh air in 170

1438

01:29:00,179 --> 01:29:23,270

foreign

1439

01:29:28,910 --> 01:29:26,209

and we were seeing some views of the

1440

01:29:30,709 --> 01:29:28,920

Personnel on the recovery vessel who are

1441

01:29:33,110 --> 01:29:30,719

specialized in opening up that hatch

1442

01:29:35,510 --> 01:29:33,120

begin to get everything ready to begin

1443

01:29:38,810 --> 01:29:35,520

that process

1444

01:29:51,610 --> 01:29:38,820

so we do expect hatch opening to come

1445

01:29:58,610 --> 01:29:55,610

and once that hatch is open we'll see

1446

01:30:00,709 --> 01:29:58,620

the footrests actually be removed before

1447

01:30:02,390 --> 01:30:00,719

the crew egresses and that's really just

1448

01:30:05,750 --> 01:30:02,400

to help make egressing a little bit

1449

01:30:09,950 --> 01:30:07,729

and now a great view on the left of the

1450

01:30:12,590 --> 01:30:09,960

crew that's still inside freedom but not

1451

01:30:15,410 --> 01:30:12,600

for long and on the right hand side is

1452

01:30:17,689 --> 01:30:15,420

the recovery vessel you can see the crew

1453

01:30:19,430 --> 01:30:17,699

Dragon Freedom tucked underneath the

1454

01:30:21,410 --> 01:30:19,440

helicopter pad there after that

1455

01:30:29,450 --> 01:30:21,420

translation maneuver which occurred just

1456

01:30:29,460 --> 01:30:38,590

foreign

1457

01:30:44,990 --> 01:30:42,590

also too prior to hatch opening

1458

01:30:46,550 --> 01:30:45,000

the pressure inside of the cabin must be

1459

01:30:49,250 --> 01:30:46,560

equalized with the outside environment

1460

01:30:52,070 --> 01:30:49,260

so that is also happening at this moment

1461

01:30:57,110 --> 01:30:52,080

up and

1462

01:30:57,120 --> 01:31:03,250

foreign

1463

01:31:07,990 --> 01:31:06,169

hatch is open these recovery Personnel

1464

01:31:12,290 --> 01:31:08,000

are the first people the crew has seen

1465

01:31:14,450 --> 01:31:12,300

on Earth since their launch day and that

1466

01:31:16,129 --> 01:31:14,460

those folks they saw on that day were

1467

01:31:17,030 --> 01:31:16,139

the the closeout crew who closed the

1468

01:31:19,550 --> 01:31:17,040

hatch

1469

01:31:21,350 --> 01:31:19,560

um back in April

1470

01:31:23,090 --> 01:31:21,360

I believe that is the flight surgeon

1471

01:31:25,970 --> 01:31:23,100

there

1472

01:31:28,250 --> 01:31:25,980

briefing the crew welcoming the crew as

1473

01:31:37,010 --> 01:31:28,260

well as briefing them for the next steps

1474

01:31:37,020 --> 01:31:56,530

traffic

1475

01:32:01,669 --> 01:31:59,450

now that the side hatch is open the

1476
01:32:04,250 --> 01:32:01,679
recovery Personnel are going to work to

1477
01:32:06,649 --> 01:32:04,260
remove those foot rests and then after

1478
01:32:12,350 --> 01:32:06,659
that we should see the crew begin to

1479
01:33:01,450 --> 01:32:44,930
foreign

1480
01:33:06,350 --> 01:33:03,470
thumbs up looks like they're feeling

1481
01:33:08,570 --> 01:33:06,360
pretty pretty good

1482
01:33:10,850 --> 01:33:08,580
so we are standing by for the egress of

1483
01:33:12,890 --> 01:33:10,860
crew 4 they will exit the capsule one at

1484
01:33:15,229 --> 01:33:12,900
a time

1485
01:33:20,330 --> 01:33:15,239
and also getting a nice welcome home

1486
01:33:20,340 --> 01:33:31,629
foreign

1487
01:33:38,149 --> 01:33:36,229
exits you might be able to see a

1488
01:33:40,550 --> 01:33:38,159

stretcher in the view that is perfectly

1489

01:33:42,830 --> 01:33:40,560

normal and expected it's part of the

1490

01:33:44,510 --> 01:33:42,840

nominal procedure as we mentioned the

1491

01:33:46,610 --> 01:33:44,520

crew will be taken to medical facilities

1492

01:33:48,410 --> 01:33:46,620

so this is really just all part of the

1493

01:33:51,530 --> 01:33:48,420

standard procedure that we do for any

1494

01:33:57,590 --> 01:33:55,129

yes again they have been out in space in

1495

01:34:00,350 --> 01:33:57,600

microgravity for about six months

1496

01:34:02,330 --> 01:34:00,360

so they may need some assistance

1497

01:34:12,830 --> 01:34:02,340

adjusting back to gravity here back on

1498

01:34:19,970 --> 01:34:15,110

so I did hear that there's a special

1499

01:34:23,209 --> 01:34:19,980

guest on board looking to welcome crew

1500

01:34:25,990 --> 01:34:23,219

for back to Earth in fact it's the

1501

01:34:29,629 --> 01:34:26,000

namesake for the vessel that they are on

1502

01:34:31,910 --> 01:34:29,639

uh NASA astronaut Megan MacArthur there

1503

01:34:33,129 --> 01:34:31,920

in your screen with that with on the

1504

01:34:36,410 --> 01:34:33,139

left of your screen

1505

01:34:38,689 --> 01:34:36,420

and the hat you can have a view of her

1506

01:34:41,810 --> 01:34:38,699

here on the left of your screen here

1507

01:34:47,270 --> 01:34:41,820

she's I'm sure looking forward to

1508

01:34:51,770 --> 01:34:49,250

that's really awesome to have her on

1509

01:34:57,350 --> 01:34:51,780

board especially the vessel that they

1510

01:35:01,189 --> 01:34:59,030

absolutely so it looks like they're

1511

01:35:29,810 --> 01:35:01,199

continuing to remove those foot rests

1512

01:35:35,030 --> 01:35:32,270

you can see there is a crew member there

1513

01:35:37,790 --> 01:35:35,040

helping to remove the harness the

1514

01:35:39,290 --> 01:35:37,800

umbilicals and make sure that the crew

1515

01:35:42,830 --> 01:35:39,300

is

1516

01:35:59,090 --> 01:35:42,840

ready to get out of their seat and exit

1517

01:36:05,030 --> 01:36:02,149

and once the crew does egress they'll

1518

01:36:06,470 --> 01:36:05,040

take part in those medical checks and

1519

01:36:09,649 --> 01:36:06,480

then after that they will board

1520

01:36:13,729 --> 01:36:09,659

helicopters where they will fly back to

1521

01:36:15,890 --> 01:36:13,739

shore at which point they will board a

1522

01:36:17,810 --> 01:36:15,900

plane and fly back to the Ellington

1523

01:36:20,750 --> 01:36:17,820

airport just outside of the Johnson

1524

01:36:23,330 --> 01:36:20,760

Space Center in Houston and then for our

1525

01:36:25,310 --> 01:36:23,340

Issa or European Space Agency astronaut

1526

01:37:02,030 --> 01:36:25,320

Samantha Christopher ready she'll head

1527

01:37:07,550 --> 01:37:05,270

and so from this view over the shoulder

1528

01:37:10,550 --> 01:37:07,560

of the crew kind of looking behind the

1529

01:37:12,830 --> 01:37:10,560

crew from left to right we can't see her

1530

01:37:15,410 --> 01:37:12,840

right now but on the farthest left is

1531

01:37:18,110 --> 01:37:15,420

European Space Agency astronaut Samantha

1532

01:37:20,450 --> 01:37:18,120

Christopher ready and then in the view

1533

01:37:23,629 --> 01:37:20,460

on the left of your screen is the

1534

01:37:26,030 --> 01:37:23,639

commander of crew Dragon Freedom NASA

1535

01:37:28,550 --> 01:37:26,040

astronaut chilled lingrin to his right

1536

01:37:31,850 --> 01:37:28,560

which we can see on our screen is NASA

1537

01:37:34,910 --> 01:37:31,860

astronaut Bob Heinz and then to his

1538

01:37:37,189 --> 01:37:34,920

right again we can't see her just yet

1539

01:37:40,250 --> 01:37:37,199

but we will in a moment here once they

1540

01:37:43,490 --> 01:37:40,260

egress is NASA astronaut Jessica Watkins

1541

01:37:46,970 --> 01:37:43,500

now this was the first flight for Bob

1542

01:37:56,570 --> 01:37:46,980

Hines and Jessica watan Watkins both

1543

01:38:01,330 --> 01:37:58,729

I also believe you mentioned a pretty

1544

01:38:05,209 --> 01:38:01,340

cool fun fact about Samantha being

1545

01:38:08,149 --> 01:38:05,219

having one of the longest amount of time

1546

01:38:11,090 --> 01:38:08,159

out in space correct yeah that's right

1547

01:38:13,970 --> 01:38:11,100

so Samantha Christopher Eddie now is

1548

01:38:18,169 --> 01:38:13,980

second in the running for longest space

1549

01:38:21,050 --> 01:38:18,179

flight by any woman she has totaled 369

1550

01:38:24,890 --> 01:38:21,060

days in Space over her two flights and

1551

01:38:27,290 --> 01:38:24,900

she is second only to now retired NASA

1552

01:38:35,450 --> 01:38:27,300

astronaut Peggy Whitson

1553

01:39:00,970 --> 01:38:39,950

looks like the first two exit their seat

1554

01:39:06,410 --> 01:39:03,830

and so again you do see that stretcher

1555

01:39:08,330 --> 01:39:06,420

to the left of the screen there that is

1556

01:39:10,189 --> 01:39:08,340

all part of our standard procedures

1557

01:39:14,270 --> 01:39:10,199

looks like we're getting some claps and

1558

01:39:14,280 --> 01:39:39,129

first out of crew Dragon freedom

1559

01:39:39,139 --> 01:39:44,450

and a high five to Megan McArthur

1560

01:39:44,460 --> 01:39:53,209

foreign

1561

01:40:00,229 --> 01:39:56,870

so as we just saw Bob Hines was the very

1562

01:40:02,629 --> 01:40:00,239

first to exit or egress the capsule he

1563

01:40:07,970 --> 01:40:02,639

spent a total of 170 days in space this

1564

01:40:12,890 --> 01:40:10,550

and it looks like next up we will have

1565

01:40:19,450 --> 01:40:12,900

the commander Chell lingrin who will

1566

01:40:24,229 --> 01:40:21,110

foreign

1567

01:40:27,110 --> 01:40:24,239

this is his second space flight he's

1568

01:40:27,900 --> 01:40:27,120

logged a total of 311 days

1569

01:40:55,610 --> 01:40:27,910

in space

1570

01:40:55,620 --> 01:41:05,590

foreign

1571

01:41:05,600 --> 01:41:22,149

is now outside of crew Dragon freedom

1572

01:41:28,070 --> 01:41:25,729

some great smiles and waves there

1573

01:41:37,450 --> 01:41:28,080

a big high five it's a NASA astronaut

1574

01:42:04,189 --> 01:41:41,330

recovery Personnel now working to get

1575

01:42:04,199 --> 01:42:39,590

foreign

1576

01:42:44,390 --> 01:42:42,649

so just five hours ago this vehicle was

1577

01:42:46,910 --> 01:42:44,400

docked to the International Space

1578

01:42:49,609 --> 01:42:46,920

Station and now we have two of the four

1579

01:42:52,729 --> 01:42:49,619

crew members having been removed after a

1580

01:42:55,669 --> 01:42:52,739

successful Splashdown

1581

01:42:58,189 --> 01:42:55,679

we are standing by for another first

1582

01:43:12,169 --> 01:42:58,199

time flyer Jessica Watkins as she is

1583

01:43:12,179 --> 01:43:30,609

foreign

1584

01:43:35,090 --> 01:43:33,169

Jessica Watkins

1585

01:43:52,129 --> 01:43:35,100

standing up for the first time in about

1586

01:43:52,139 --> 01:43:59,990

laughs

1587

01:44:04,850 --> 01:44:02,570

and the final crew member that will be

1588

01:44:07,490 --> 01:44:04,860

removed is European Space Agency

1589

01:44:10,310 --> 01:44:07,500

astronaut Samantha Christopher ready

1590

01:44:13,250 --> 01:44:10,320

who after this Mission has logged 369

1591

01:44:15,709 --> 01:44:13,260

days in Space over her two flights which

1592

01:44:18,350 --> 01:44:15,719

again that does make her the second on

1593

01:44:21,830 --> 01:44:18,360

the all-time list for most days in Space

1594

01:44:23,830 --> 01:44:21,840

by a woman and that is second to NASA's

1595

01:44:26,750 --> 01:44:23,840

Peggy Whitson who lost

1596

01:44:43,490 --> 01:44:26,760

665 days in Space over her three space

1597

01:45:48,290 --> 01:45:14,270

foreign

1598

01:45:53,570 --> 01:45:51,290

there is Issa astronaut Samantha

1599

01:45:56,810 --> 01:45:53,580

Christopher Eddie now egress from the

1600

01:46:09,830 --> 01:45:56,820

dragon vehicle the final crew member of

1601
01:46:15,410 --> 01:46:13,070
well now that Chell lingrin Bob Heinz

1602
01:46:17,930 --> 01:46:15,420
Jessica Watkins and Samantha Christopher

1603
01:46:19,790 --> 01:46:17,940
ready are safely back home on Earth and

1604
01:46:22,070 --> 01:46:19,800
getting checked out by the NASA medical

1605
01:46:24,950 --> 01:46:22,080
team we're going to wrap up our live

1606
01:46:28,129 --> 01:46:24,960
coverage of the return this all kicked

1607
01:46:30,830 --> 01:46:28,139
off on April 27th from historic launch

1608
01:46:33,649 --> 01:46:30,840
pad 39a at the Kennedy Space Center in

1609
01:46:36,590 --> 01:46:33,659
Florida after a successful liftoff and

1610
01:46:39,350 --> 01:46:36,600
separation from Falcon 9 Chell Bob

1611
01:46:41,629 --> 01:46:39,360
Jessica and Samantha made a 16-hour

1612
01:46:43,729 --> 01:46:41,639
flight on board dragon to the

1613
01:46:45,649 --> 01:46:43,739

International Space Station since

1614

01:46:47,870 --> 01:46:45,659

arriving at the space station they spent

1615

01:46:51,950 --> 01:46:47,880

nearly six months as members of

1616

01:46:54,890 --> 01:46:51,960

expedition 67 and 68 executing science

1617

01:46:57,410 --> 01:46:54,900

experiments spacewalks and repairs all

1618

01:46:59,629 --> 01:46:57,420

aboard the orbiting laboratory and their

1619

01:47:01,669 --> 01:46:59,639

journey home began earlier today October

1620

01:47:03,410 --> 01:47:01,679

14th when they closed the hatch to dragon

1621

01:47:06,890 --> 01:47:03,420

and undock from the International Space

1622

01:47:09,109 --> 01:47:06,900

Station at 9 05 a.m Pacific time after

1623

01:47:10,970 --> 01:47:09,119

four successful departure Burns and a

1624

01:47:13,310 --> 01:47:10,980

phasing burn to line up their orbit

1625

01:47:15,590 --> 01:47:13,320

shall Bob Jessica and Samantha rested

1626
01:47:18,050 --> 01:47:15,600
for a few hours before waking up to

1627
01:47:19,970 --> 01:47:18,060
prepare for re-entry this morning we

1628
01:47:22,729 --> 01:47:19,980
jettisoned dragons trunk and performed

1629
01:47:25,729 --> 01:47:22,739
our final on-orbit maneuver the deorbit

1630
01:47:28,450 --> 01:47:25,739
burn at 101 pm

1631
01:47:32,090 --> 01:47:28,460
GMT or Pacific time to send Dragon

1632
01:47:33,830 --> 01:47:32,100
omnipath home the spacecraft re-entered

1633
01:47:35,629 --> 01:47:33,840
the Earth's atmosphere and slowed its

1634
01:47:38,390 --> 01:47:35,639
descent with successful deployments of

1635
01:47:40,850 --> 01:47:38,400
two drug parachutes and four Mains with

1636
01:47:44,450 --> 01:47:40,860
the final Splashdown occurring off the

1637
01:47:45,470 --> 01:47:44,460
coast of Florida at 1 55 p.m Pacific

1638
01:47:47,510 --> 01:47:45,480

time

1639

01:47:50,870 --> 01:47:47,520

now following that successful Splashdown

1640

01:47:53,090 --> 01:47:50,880

we saw SpaceX recovery experts move in

1641

01:47:55,669 --> 01:47:53,100

and prepare dragon freedom for its lift

1642

01:47:57,350 --> 01:47:55,679

onto the recovery vessel and just a

1643

01:47:59,870 --> 01:47:57,360

little less than an hour ago falling

1644

01:48:02,090 --> 01:47:59,880

Splashdown we saw Chell Bob Jessica and

1645

01:48:04,070 --> 01:48:02,100

Samantha make their way out of dragon

1646

01:48:06,470 --> 01:48:04,080

into the recovery ship's medical

1647

01:48:08,870 --> 01:48:06,480

facilities safe and sound

1648

01:48:10,850 --> 01:48:08,880

and next up they'll catch a helicopter

1649

01:48:12,830 --> 01:48:10,860

flight back to shore where they'll

1650

01:48:15,410 --> 01:48:12,840

transfer to aircraft that will take them

1651

01:48:17,090 --> 01:48:15,420

home chill Bob and Jessica and Samantha

1652

01:48:19,370 --> 01:48:17,100

will take a NASA plane for the short

1653

01:48:21,470 --> 01:48:19,380

flight back to Houston and Samantha will

1654

01:48:23,689 --> 01:48:21,480

board a plane back to Europe after that

1655

01:48:26,209 --> 01:48:23,699

they'll be reunited with their families

1656

01:48:28,850 --> 01:48:26,219

to bring an end to this successful

1657

01:48:30,890 --> 01:48:28,860

Mission it's been an honor and a

1658

01:48:33,470 --> 01:48:30,900

privilege to share their Journey with

1659

01:48:35,330 --> 01:48:33,480

all of you as we continue this new era

1660

01:48:37,970 --> 01:48:35,340

in human space flight

1661

01:48:40,129 --> 01:48:37,980

now return today marks the end of the

1662

01:48:41,990 --> 01:48:40,139

direct Handover we just executed after

1663

01:48:44,330 --> 01:48:42,000

successfully launching the crew 5

1664

01:48:46,669 --> 01:48:44,340

Mission to the space station just a

1665

01:48:48,470 --> 01:48:46,679

little over a week ago it has been an

1666

01:48:50,390 --> 01:48:48,480

incredible honor and joy to share this

1667

01:48:52,910 --> 01:48:50,400

Mission with the public all the teams

1668

01:48:54,890 --> 01:48:52,920

from SpaceX and NASA continue to work

1669

01:48:57,290 --> 01:48:54,900

hard to keep America leading the world

1670

01:48:59,570 --> 01:48:57,300

in human space life continue to follow

1671

01:49:02,330 --> 01:48:59,580

SpaceX and NASA online and on social

1672

01:49:04,970 --> 01:49:02,340

media for updates for the very latest on

1673

01:49:06,470 --> 01:49:04,980

crew and cargo flights to and from the

1674

01:49:08,930 --> 01:49:06,480

International Space Station

1675

01:49:11,570 --> 01:49:08,940

and we'll continue to share the progress

1676
01:49:13,370 --> 01:49:11,580
of shell Bob Jessica and Samantha on

1677
01:49:16,310 --> 01:49:13,380
social media as they travel back home

1678
01:49:18,649 --> 01:49:16,320
now we also do have a post Splashdown

1679
01:49:22,310 --> 01:49:18,659
media telecon coming up at approximately

1680
01:49:25,010 --> 01:49:22,320
3 30 p.m Pacific Time 6 30 p.m Eastern

1681
01:49:27,890 --> 01:49:25,020
where leadership from NASA Issa and

1682
01:49:30,770 --> 01:49:27,900
SpaceX will share a final update as we

1683
01:49:33,169 --> 01:49:30,780
conclude this successful Mission so

1684
01:49:35,510 --> 01:49:33,179
we'll say thanks one more time for

1685
01:49:38,450 --> 01:49:35,520
tuning in and cheering on Chell Bob

1686
01:49:41,030 --> 01:49:38,460
Jessica and Samantha as they made their

1687
01:49:44,629 --> 01:49:41,040
return back to planet Earth from all of

1688
01:49:52,840 --> 01:49:44,639

us at Nasa and SpaceX and Issa welcome

1689

01:49:52,850 --> 01:49:58,870

[Music]

1690

01:49:58,880 --> 01:50:05,160

thank you