



1
00:00:21,540 --> 00:00:02,890
foreign

2
00:00:40,270 --> 00:00:29,940
[Music]

3
00:01:09,880 --> 00:00:42,540
thank you

4
00:02:27,430 --> 00:01:16,969
[Music]

5
00:02:31,490 --> 00:02:29,690
thank you

6
00:02:59,330 --> 00:02:31,500
foreign

7
00:03:01,360 --> 00:02:59,340
[Music]

8
00:03:07,910 --> 00:03:01,370
foreign

9
00:03:33,430 --> 00:03:22,500
[Music]

10
00:03:42,860 --> 00:03:35,330
thank you

11
00:03:57,910 --> 00:03:54,170
[Music]

12
00:04:01,369 --> 00:03:57,920
good morning it's Saturday May 6.

13
00:04:07,670 --> 00:04:01,379

and we are ready for uh unboxing

14

00:04:13,490 --> 00:04:09,830

station Houston on the big Lou performs

15

00:04:23,230 --> 00:04:13,500

steps two through end in one decimal 602

16

00:04:28,490 --> 00:04:25,969

crew copies and we are ready for Dragon

17

00:04:32,210 --> 00:04:28,500

undocking

18

00:04:36,170 --> 00:04:34,370

good morning and Saturday May 6th I'm

19

00:04:37,969 --> 00:04:36,180

NASA's Gary Jordan what you just heard

20

00:04:40,670 --> 00:04:37,979

was confirmation from the crew on board

21

00:04:42,110 --> 00:04:40,680

the dragon Endeavor spacecraft as well

22

00:04:43,909 --> 00:04:42,120

as inside the International Space

23

00:04:45,830 --> 00:04:43,919

Station here on the ground in Mission

24

00:04:48,409 --> 00:04:45,840

Control Houston and the teams over in

25

00:04:51,590 --> 00:04:48,419

Hawthorne in SpaceX all teams are go for

26
00:04:54,409 --> 00:04:51,600
undocking the uh dragon Endeavor today

27
00:04:56,510 --> 00:04:54,419
and for a port relocation maneuver

28
00:04:59,990 --> 00:04:56,520
you're looking at a live view of dragon

29
00:05:02,090 --> 00:05:00,000
Endeavor on the Zenith Port as we await

30
00:05:03,350 --> 00:05:02,100
the departure from this docking port on

31
00:05:04,189 --> 00:05:03,360
the International Space Station to

32
00:05:06,890 --> 00:05:04,199
another

33
00:05:09,230 --> 00:05:06,900
in other words what we've refer to as a

34
00:05:11,570 --> 00:05:09,240
port relocation Dragon will be moving

35
00:05:13,909 --> 00:05:11,580
from the international docking adapter 3

36
00:05:16,670 --> 00:05:13,919
or ida3 on the Zenith or space-facing

37
00:05:18,830 --> 00:05:16,680
Harmony port to the Ida 2 on the forward

38
00:05:20,930 --> 00:05:18,840

Harmony Port this frees up the Zenith

39

00:05:23,510 --> 00:05:20,940
port for the arrival of the Dragon cargo

40

00:05:25,010 --> 00:05:23,520
vehicle on the crs-28 mission and prior

41

00:05:27,650 --> 00:05:25,020
to that the dragon Freedom spacecraft

42

00:05:30,409 --> 00:05:27,660
carrying the Axiom mission 2 private

43

00:05:31,909 --> 00:05:30,419
astronauts we expect Dragon to push away

44

00:05:33,650 --> 00:05:31,919
from the space station with NASA

45

00:05:36,050 --> 00:05:33,660
astronaut Steve Bowen and Woody hoberg

46

00:05:38,450 --> 00:05:36,060
and Marathi astronaut Sultan on the Audi

47

00:05:42,050 --> 00:05:38,460
and was Cosmos Cosmonaut Andre fidyev on

48

00:05:43,790 --> 00:05:42,060
board at 6 10 a.m Central Time joining

49

00:05:45,350 --> 00:05:43,800
me from SpaceX in Hawthorne to walk you

50

00:05:47,749 --> 00:05:45,360
through everything today is Jesse

51
00:05:49,610 --> 00:05:47,759
Anderson Hey Jessie

52
00:05:52,010 --> 00:05:49,620
hey Gary

53
00:05:54,050 --> 00:05:52,020
good morning everyone I'm Jesse Anderson

54
00:05:56,270 --> 00:05:54,060
a production engineering manager at

55
00:05:58,670 --> 00:05:56,280
SpaceX this will be the third port

56
00:06:01,070 --> 00:05:58,680
relocation of a dragon crew spacecraft

57
00:06:03,350 --> 00:06:01,080
following those of crew 1 and crew 2

58
00:06:06,290 --> 00:06:03,360
just a couple years back

59
00:06:08,930 --> 00:06:06,300
at this point the crew is suited both

60
00:06:11,029 --> 00:06:08,940
the dragon and apas hatches have been

61
00:06:13,490 --> 00:06:11,039
closed and vestibule leak checks are

62
00:06:15,409 --> 00:06:13,500
complete there are four seats configured

63
00:06:17,749 --> 00:06:15,419

right now inside of dragon and are

64

00:06:19,969 --> 00:06:17,759

numbered one to four from right to left

65

00:06:22,430 --> 00:06:19,979

when looking at the seats Steve is in

66

00:06:24,409 --> 00:06:22,440

seat two or the commander seat Woody is

67

00:06:26,570 --> 00:06:24,419

beside him in seat three which for

68

00:06:29,390 --> 00:06:26,580

Dragon is the pilot seat

69

00:06:30,409 --> 00:06:29,400

Andre is in seat four and Sultan is in

70

00:06:33,469 --> 00:06:30,419

seat one

71

00:06:35,450 --> 00:06:33,479

The Joint Nasa and SpaceX teams just

72

00:06:37,969 --> 00:06:35,460

completed their goat no-go Poll for

73

00:06:39,469 --> 00:06:37,979

undocking and all systems are go for

74

00:06:41,629 --> 00:06:39,479

today's relocation

75

00:06:43,490 --> 00:06:41,639

once Dragon pushes away from station the

76
00:06:45,890 --> 00:06:43,500
full maneuver will last approximately 45

77
00:06:48,950 --> 00:06:45,900
minutes while dragon is just moving

78
00:06:50,570 --> 00:06:48,960
parking spots the crew and vehicle have

79
00:06:52,490 --> 00:06:50,580
undergone all the same checkouts and

80
00:06:55,309 --> 00:06:52,500
preparations as if they were getting

81
00:06:57,110 --> 00:06:55,319
ready to return to earth now that way in

82
00:06:58,850 --> 00:06:57,120
the unlikely event that we see an

83
00:07:00,890 --> 00:06:58,860
off-nominal scenario the crew and

84
00:07:05,330 --> 00:07:00,900
vehicle are prepared to deorbit and

85
00:07:11,510 --> 00:07:08,870
I think we saw that the d2dm application

86
00:07:19,749 --> 00:07:11,520
has stopped uh working you can close

87
00:07:24,409 --> 00:07:22,430
that call was to Frank Rubio on the

88
00:07:26,330 --> 00:07:24,419

International Space Station sign his job

89

00:07:28,610 --> 00:07:26,340

today from the space station is to

90

00:07:30,950 --> 00:07:28,620

monitor the undocking and Port

91

00:07:32,390 --> 00:07:30,960

relocation maneuver from inside the

92

00:07:34,370 --> 00:07:32,400

International Space Station part of the

93

00:07:36,230 --> 00:07:34,380

checks and balances that are built in to

94

00:07:37,909 --> 00:07:36,240

these delicate operations

95

00:07:39,469 --> 00:07:37,919

but as Jesse mentioned we have the four

96

00:07:42,050 --> 00:07:39,479

crew members inside Dragon Endeavor

97

00:07:44,270 --> 00:07:42,060

ready for undoc she mentioned that all

98

00:07:45,890 --> 00:07:44,280

teams have pulled go so we're counting

99

00:07:48,050 --> 00:07:45,900

down to the initiation of What's called

100

00:07:51,610 --> 00:07:48,060

the undock command that's happening in

101
00:07:54,589 --> 00:07:51,620
about one minute 605 a.m Central Time

102
00:07:59,150 --> 00:07:54,599
405 am Pacific

103
00:08:00,770 --> 00:07:59,160
at that time the undock sequence will be

104
00:08:03,469 --> 00:08:00,780
initiated and it's about a five minute

105
00:08:05,629 --> 00:08:03,479
sequence right now with dragon attached

106
00:08:08,150 --> 00:08:05,639
to the Zenith or space facing side it's

107
00:08:09,890 --> 00:08:08,160
attached by 12 latches as well as an

108
00:08:12,770 --> 00:08:09,900
umbilical that connects and provides

109
00:08:14,990 --> 00:08:12,780
data and power to in between the dragon

110
00:08:17,450 --> 00:08:15,000
and the International Space Station upon

111
00:08:19,189 --> 00:08:17,460
undocking it will separate from the

112
00:08:22,430 --> 00:08:19,199
International Space Station and Retreat

113
00:08:25,309 --> 00:08:22,440

out to about 60 meters we should expect

114

00:08:28,309 --> 00:08:25,319

either a hold or a smooth transition

115

00:08:29,210 --> 00:08:28,319

over to this transition maneuver

116

00:08:31,850 --> 00:08:29,220

um

117

00:08:34,250 --> 00:08:31,860

trajectory that you see there is it

118

00:08:36,350 --> 00:08:34,260

makes its way over to a midpoint uh

119

00:08:38,750 --> 00:08:36,360

right about the halfway mark in between

120

00:08:41,089 --> 00:08:38,760

the two docking axes before making its

121

00:08:43,190 --> 00:08:41,099

way to the new docking axis also and

122

00:08:45,650 --> 00:08:43,200

about 60 meters from there it approaches

123

00:08:47,630 --> 00:08:45,660

inwards to about 20 meters for a hold

124

00:08:50,329 --> 00:08:47,640

this is the same Waypoint two that we

125

00:08:52,009 --> 00:08:50,339

see for Dragon Rendezvous and approaches

126
00:08:54,650 --> 00:08:52,019
and dockings to the International Space

127
00:08:56,690 --> 00:08:54,660
Station after all teams poll go from Ray

128
00:09:00,290 --> 00:08:56,700
Point Waypoint two it'll make its way in

129
00:09:02,870 --> 00:09:00,300
and again this is a 45 minute maneuver

130
00:09:05,329 --> 00:09:02,880
Dragon SpaceX on the big loop we will be

131
00:09:06,530 --> 00:09:05,339
standing down from the 1105 undock

132
00:09:13,430 --> 00:09:06,540
sequence time

133
00:09:13,440 --> 00:09:27,949
perfect starting practice

134
00:09:32,210 --> 00:09:30,710
and dragon station Houston on the big

135
00:09:34,730 --> 00:09:32,220
loop we're just trying to get some

136
00:09:37,009 --> 00:09:34,740
monitoring tools up for Frank and we

137
00:09:39,230 --> 00:09:37,019
don't have a rush for today's uh

138
00:09:49,009 --> 00:09:39,240

activity so we're gonna catch this on

139

00:09:52,970 --> 00:09:51,290

so that read-up to the crew Frank Rubio

140

00:09:55,850 --> 00:09:52,980

again inside the International Space

141

00:09:58,130 --> 00:09:55,860

Station has a display tool called the R

142

00:10:00,470 --> 00:09:58,140

Pop Rendezvous proximity on operations

143

00:10:03,530 --> 00:10:00,480

panel and a series of software that

144

00:10:05,030 --> 00:10:03,540

allow him to monitor dragon's undocking

145

00:10:07,550 --> 00:10:05,040

unport relocation maneuver getting

146

00:10:10,070 --> 00:10:07,560

Telemetry and also the ability as a

147

00:10:11,150 --> 00:10:10,080

safety measure to send commands to the

148

00:10:13,310 --> 00:10:11,160

Dragon

149

00:10:15,829 --> 00:10:13,320

should commands not be enabled from

150

00:10:17,930 --> 00:10:15,839

inside the dragon cabin as a safety

151
00:10:21,250 --> 00:10:17,940
precaution uh you heard the teams wave

152
00:10:23,990 --> 00:10:21,260
off from the initial what they call 1105

153
00:10:26,030 --> 00:10:24,000
undocking time that's referring to 605

154
00:10:27,410 --> 00:10:26,040
am Central Time

155
00:10:29,449 --> 00:10:27,420
and what that means is that's the

156
00:10:31,190 --> 00:10:29,459
initiation of the undock command again

157
00:10:32,570 --> 00:10:31,200
that's a five minute sequence until we

158
00:10:35,570 --> 00:10:32,580
actually see the physical separation

159
00:10:37,610 --> 00:10:35,580
five minutes later for a port relocation

160
00:10:40,250 --> 00:10:37,620
maneuver there is a generous window

161
00:10:42,470 --> 00:10:40,260
built into the operations so again they

162
00:10:44,210 --> 00:10:42,480
just identified that there is no rush to

163
00:10:46,310 --> 00:10:44,220

get separated from the International

164

00:10:48,410 --> 00:10:46,320

Space Station that window that they were

165

00:10:50,150 --> 00:10:48,420

talking about is the data and

166

00:10:55,670 --> 00:10:50,160

Communications coming from tedris

167

00:10:55,680 --> 00:10:59,090

docking monitor

168

00:10:59,100 --> 00:11:35,150

copy

169

00:11:40,490 --> 00:11:38,210

so you hear those words up to the crew

170

00:11:42,650 --> 00:11:40,500

um over to confirming from Frank Rubio

171

00:11:44,630 --> 00:11:42,660

again a NASA astronaut on the

172

00:11:46,250 --> 00:11:44,640

International Space Station side of this

173

00:11:47,990 --> 00:11:46,260

operation confirming that he's got his

174

00:11:49,130 --> 00:11:48,000

displays what they're going to do is

175

00:11:51,710 --> 00:11:49,140

they're going to wait on to the other

176

00:11:53,150 --> 00:11:51,720

end of what's called a Handover this is

177

00:11:55,190 --> 00:11:53,160

the teacher satellites that provide

178

00:11:56,990 --> 00:11:55,200

video and audio communication from the

179

00:11:59,810 --> 00:11:57,000

space station down here to the ground so

180

00:12:01,670 --> 00:11:59,820

teams can monitor that Handover is

181

00:12:02,829 --> 00:12:01,680

expected in about seven and a half

182

00:12:04,970 --> 00:12:02,839

minutes

183

00:12:07,430 --> 00:12:04,980

and what the teams are going to do is

184

00:12:10,430 --> 00:12:07,440

wait until uh that time when we regain

185

00:12:14,630 --> 00:12:10,440

Communications and initiate a new undock

186

00:12:16,850 --> 00:12:14,640

sequence command at 6 18 a.m Central

187

00:12:19,970 --> 00:12:16,860

Time

188

00:12:24,470 --> 00:12:19,980

again that's the five minute period uh

189

00:12:27,050 --> 00:12:24,480

to that allows umbilicals to UNT to uh

190

00:12:28,370 --> 00:12:27,060

disconnect as well as the 12 latches

191

00:12:30,230 --> 00:12:28,380

that are currently securing Dragon

192

00:12:31,970 --> 00:12:30,240

Endeavor to the International Space

193

00:12:35,030 --> 00:12:31,980

Station that five minute sequence puts

194

00:12:47,050 --> 00:12:35,040

our new Target around 6 23 a.m Central

195

00:12:58,509 --> 00:12:50,030

Dragon SpaceX on the big loop for more

196

00:12:58,519 --> 00:13:01,790

go ahead

197

00:13:05,329 --> 00:13:03,650

all right so station monitoring program

198

00:13:07,069 --> 00:13:05,339

is back up and running we are now

199

00:13:08,470 --> 00:13:07,079

targeting a new undock sequence time

200

00:13:11,449 --> 00:13:08,480

start of

201
00:13:19,790 --> 00:13:11,459
1118 Zulu and you have a go to raise

202
00:13:19,800 --> 00:13:33,470
zero and our advisors are open

203
00:13:38,030 --> 00:13:35,930
so that new undocking sequence

204
00:13:39,889 --> 00:13:38,040
initiation start was read up to the crew

205
00:13:42,410 --> 00:13:39,899
again we're targeting 618 for that

206
00:13:44,389 --> 00:13:42,420
undock sequence command that puts our un

207
00:13:48,530 --> 00:13:44,399
Dock and physical separation targeted

208
00:13:50,150 --> 00:13:48,540
for 6 23 am Central Time

209
00:13:51,590 --> 00:13:50,160
in the meantime because we're waiting

210
00:13:53,569 --> 00:13:51,600
for this Handover period they are able

211
00:13:55,910 --> 00:13:53,579
to pull their visors up

212
00:13:57,889 --> 00:13:55,920
again as a safety measure built into the

213
00:14:00,170 --> 00:13:57,899

operations visors are down during some

214

00:14:02,090 --> 00:14:00,180

of the most significant moments of uh

215

00:14:05,090 --> 00:14:02,100

this maneuver including the physical

216

00:14:06,829 --> 00:14:05,100

separation from the space station for

217

00:14:09,170 --> 00:14:06,839

Dragon endeavor

218

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

with the visors closed the suits

219

00:14:14,210 --> 00:14:11,040

themselves can provide an extra layer of

220

00:14:16,009 --> 00:14:14,220

protection in terms of pressure

221

00:14:17,990 --> 00:14:16,019

but since we're just waiting here idly

222

00:14:19,910 --> 00:14:18,000

for that Handover period expected in

223

00:14:21,710 --> 00:14:19,920

just a little more than five minutes

224

00:14:24,889 --> 00:14:21,720

where we'll lose video that we're seeing

225

00:14:27,230 --> 00:14:24,899

here from space we expect to regain that

226
00:14:30,949 --> 00:14:27,240
in just a short order probably around 20

227
00:14:36,710 --> 00:14:32,930
and again we're targeting that undocked

228
00:14:38,150 --> 00:14:36,720
sequence to initiate at about 6 18. so a

229
00:15:16,970 --> 00:14:38,160
little bit of margin built into the

230
00:15:21,530 --> 00:15:19,670
Dragon crew this is stationed I have a

231
00:15:27,260 --> 00:15:21,540
little easy listening for you while we

232
00:15:30,980 --> 00:15:29,270
[Music]

233
00:15:51,590 --> 00:15:30,990
[Applause]

234
00:15:55,850 --> 00:15:53,689
Frank I hope you enjoyed a short time

235
00:15:58,910 --> 00:15:55,860
without us appreciate you back in a

236
00:15:58,920 --> 00:16:12,470
that was great

237
00:16:18,290 --> 00:16:15,590
some great music from the crew as they

238
00:16:21,949 --> 00:16:18,300

are awaiting undocking

239

00:16:42,290 --> 00:16:21,959

and relocation of the Dragon Endeavor to

240

00:16:49,610 --> 00:16:45,050

we are about six minutes away five

241

00:16:51,530 --> 00:16:49,620

minutes away from the undocking command

242

00:16:53,449 --> 00:16:51,540

and so the crew

243

00:16:55,550 --> 00:16:53,459

what you're seeing on your screen is the

244

00:16:58,670 --> 00:16:55,560

crew preparing for relocation we've got

245

00:17:01,550 --> 00:16:58,680

a live view inside of dragon endeavor

246

00:18:04,010 --> 00:17:01,560

you can see both the pilot and Commander

247

00:18:08,330 --> 00:18:06,470

and as you see we're starting to enter

248

00:18:10,850 --> 00:18:08,340

into that Handover period that was

249

00:18:14,029 --> 00:18:10,860

mentioned uh which was part of the

250

00:18:15,049 --> 00:18:14,039

reason for the new undocking time being

251

00:18:18,470 --> 00:18:15,059

um

252

00:18:19,850 --> 00:18:18,480

being announced at again 6 23 is what

253

00:18:21,470 --> 00:18:19,860

we're targeting for physical separation

254

00:18:23,750 --> 00:18:21,480

so we lose video and audio

255

00:18:26,810 --> 00:18:23,760

Communications uh from the International

256

00:18:28,909 --> 00:18:26,820

Space Station lots of teams working in

257

00:18:30,529 --> 00:18:28,919

synchronization for this delegate

258

00:18:31,610 --> 00:18:30,539

procedure today what you're looking at

259

00:18:33,770 --> 00:18:31,620

is a live view of the International

260

00:18:35,870 --> 00:18:33,780

Space Station flight control room here

261

00:18:37,490 --> 00:18:35,880

in Houston Texas the teams here are

262

00:18:39,650 --> 00:18:37,500

monitoring the International Space

263

00:18:41,390 --> 00:18:39,660

Station as a vehicle and seeing through

264

00:18:44,090 --> 00:18:41,400

the operations for both the Vehicle

265

00:18:46,250 --> 00:18:44,100

Systems as well as the crew

266

00:18:48,650 --> 00:18:46,260

leaving the teams here in Mission

267

00:18:51,890 --> 00:18:48,660

Control Houston is flight director Puja

268

00:18:56,270 --> 00:18:54,110

she's working uh with her counterpart

269

00:18:58,669 --> 00:18:56,280

the mission director over in SpaceX in

270

00:19:01,190 --> 00:18:58,679

Hawthorne Alex canalecos the mission

271

00:19:04,370 --> 00:19:01,200

director overseeing the operations from

272

00:19:04,380 --> 00:19:16,490

all teams are talking

273

00:19:20,630 --> 00:19:18,470

and a correction Alex kanawakos is the

274

00:19:22,610 --> 00:19:20,640

Capcom that you see there in Mission

275

00:19:23,810 --> 00:19:22,620

Control Houston next to Puja just Rani

276

00:19:25,669 --> 00:19:23,820

is his voice that you're hearing on

277

00:19:29,090 --> 00:19:25,679

What's called the big loop the big loop

278

00:19:32,630 --> 00:19:30,830

where the teams here in Mission Control

279

00:19:35,990 --> 00:19:32,640

Houston as well as the teams over in

280

00:19:40,970 --> 00:19:38,510

they talk with the both the crew on

281

00:19:43,610 --> 00:19:40,980

inside Dragon Endeavor as well as inside

282

00:19:46,130 --> 00:19:43,620

the International Space Station

283

00:19:54,049 --> 00:19:46,140

all teams communicating on a single Loop

284

00:20:01,010 --> 00:19:59,090

as we wait for the Handover period

285

00:20:02,510 --> 00:20:01,020

to come back with audio and video from

286

00:20:04,669 --> 00:20:02,520

the International Space Station a little

287

00:20:10,730 --> 00:20:04,679

more on why we are doing a port

288

00:20:27,890 --> 00:20:13,010

copy that visors are closed and ground

289

00:20:32,750 --> 00:20:30,110

again 6 18 a.m Central Time the target

290

00:20:34,130 --> 00:20:32,760

for the undoc command being sent at the

291

00:20:35,870 --> 00:20:34,140

five minute sequence to get us to

292

00:20:38,750 --> 00:20:35,880

physical separation five minutes later

293

00:20:44,270 --> 00:20:41,810

on the big loop perform steps two

294

00:20:53,510 --> 00:20:44,280

through end in one decimal 602 Dragon

295

00:21:07,130 --> 00:20:55,250

and station crew is ready for Dragon on

296

00:21:10,370 --> 00:21:09,049

and you heard that go from all teams

297

00:21:12,049 --> 00:21:10,380

from Mission Control Houston from the

298

00:21:13,549 --> 00:21:12,059

teams over in Hawthorne as well as the

299

00:21:15,169 --> 00:21:13,559

crews inside Dragon Endeavor and

300

00:21:16,730 --> 00:21:15,179

International Space Station all teams

301
00:21:18,890 --> 00:21:16,740
are go counting down

302
00:21:21,049 --> 00:21:18,900
less than 30 seconds from that undock

303
00:21:23,090 --> 00:21:21,059
command being initiated

304
00:21:25,010 --> 00:21:23,100
KU or video from the International Space

305
00:21:28,669 --> 00:21:25,020
Station not required for that initiation

306
00:21:33,529 --> 00:21:31,330
and that triggers Dragon to

307
00:21:36,890 --> 00:21:33,539
automatically start its undocking

308
00:21:39,230 --> 00:21:36,900
sequence again that is uh retracting the

309
00:21:40,970 --> 00:21:39,240
umbilical that connects the dragon

310
00:21:42,289 --> 00:21:40,980
Endeavor to the International Space

311
00:21:51,470 --> 00:21:42,299
Station providing data and power

312
00:21:56,330 --> 00:21:54,470
right on time 6 18 a.m Central Time the

313
00:21:57,710 --> 00:21:56,340

undoc sequin has commanded it's a five

314

00:22:05,870 --> 00:21:57,720

minute sequence again until physical

315

00:22:09,350 --> 00:22:07,789

what's happening now is the umbilical is

316

00:22:11,510 --> 00:22:09,360

retracting that umbilical originally

317

00:22:14,270 --> 00:22:11,520

providing data and Power in between the

318

00:22:16,010 --> 00:22:14,280

station over to the Dragon

319

00:22:17,210 --> 00:22:16,020

there are 12 latches that are currently

320

00:22:19,010 --> 00:22:17,220

securing dragon to the International

321

00:22:19,990 --> 00:22:19,020

Space Station they will be released six

322

00:22:25,730 --> 00:22:20,000

at a time

323

00:22:30,230 --> 00:22:28,250

that first step is complete

324

00:22:31,570 --> 00:22:30,240

with the umbilical completely retracted

325

00:22:51,470 --> 00:22:31,580

the first six

326

00:22:56,690 --> 00:22:53,810

as Gary mentioned the

327

00:22:57,770 --> 00:22:56,700

hooks will begin to retract that will

328

00:23:00,950 --> 00:22:57,780

allow

329

00:23:03,470 --> 00:23:00,960

the dragon spacecraft 2 then fire its

330

00:23:05,510 --> 00:23:03,480

Draco thrusters in two short bursts to

331

00:23:07,310 --> 00:23:05,520

break the stiction between it and the

332

00:23:09,830 --> 00:23:07,320

docking port and then physically

333

00:23:15,649 --> 00:23:09,840

separate from station again that will

334

00:23:17,690 --> 00:23:15,659

happen at the 6 23 a.m Central Time mark

335

00:23:21,409 --> 00:23:17,700

then Dragon will slowly back away from

336

00:23:23,450 --> 00:23:21,419

station and activate activate its lidar

337

00:23:25,970 --> 00:23:23,460

which stands for light detection and

338

00:23:28,610 --> 00:23:25,980

ranging and that'll begin tracking the

339

00:23:30,590 --> 00:23:28,620

space station once it acquires a solid

340

00:23:32,870 --> 00:23:30,600

signal the crowned will command Dragon

341

00:23:35,330 --> 00:23:32,880

to hold approximately 60 meters away

342

00:23:38,029 --> 00:23:35,340

from station and once everything looks

343

00:23:41,029 --> 00:23:38,039

good Dragon will begin to move from in

344

00:23:42,890 --> 00:23:41,039

front of the station to above it so

345

00:23:44,690 --> 00:23:42,900

again we are waiting for the hooks to

346

00:23:47,570 --> 00:23:44,700

complete unlatching

347

00:24:20,990 --> 00:23:47,580

and then we can begin the physical

348

00:24:27,289 --> 00:24:23,870

and again as we count down video is not

349

00:24:28,490 --> 00:24:27,299

required for the undocking to occur that

350

00:24:30,049 --> 00:24:28,500

Handover period that we were talking

351
00:24:32,149 --> 00:24:30,059
about was audio so you're hearing the

352
00:24:33,470 --> 00:24:32,159
big loop and the communications from the

353
00:24:35,390 --> 00:24:33,480
crew onboard the International Space

354
00:24:36,529 --> 00:24:35,400
Station as well as Dragon Endeavor teens

355
00:24:39,110 --> 00:24:36,539
are monitoring all along the way

356
00:24:45,830 --> 00:24:39,120
receiving Telemetry and data from dragon

357
00:24:45,840 --> 00:25:15,590
six hooks down and six to go

358
00:25:19,669 --> 00:25:17,930
again teams in Houston on your screen on

359
00:25:21,169 --> 00:25:19,679
the left as well as in Hawthorne

360
00:25:23,630 --> 00:25:21,179
California on your screen on the right

361
00:26:24,230 --> 00:25:23,640
monitoring these operations we're on

362
00:26:28,370 --> 00:26:26,570
we're counting down about 20 seconds or

363
00:26:41,870 --> 00:26:28,380

more from physical separation standing

364

00:26:41,880 --> 00:26:51,289

all hooks open and nominal

365

00:26:51,299 --> 00:26:57,409

Dragon separation confirmed

366

00:26:57,419 --> 00:27:03,230

perfect

367

00:27:07,970 --> 00:27:05,210

great news we have to confirm physical

368

00:27:10,490 --> 00:27:07,980

separation good undog Burns one and two

369

00:27:13,669 --> 00:27:10,500

The Retreat rate is nominal that undock

370

00:27:16,010 --> 00:27:13,679

time was 6 23 a.m Central Time

371

00:27:19,250 --> 00:27:16,020

at the time of undocking space station

372

00:27:31,810 --> 00:27:19,260

and dragon Endeavor were 258 statute

373

00:27:31,820 --> 00:27:38,810

relocate burn zero complete

374

00:27:38,820 --> 00:27:42,350

packing problems

375

00:27:46,970 --> 00:27:45,289

undocking Burns one and two allow for

376

00:27:49,130 --> 00:27:46,980

the physical separation of dragon from

377

00:27:52,190 --> 00:27:49,140

the stage from the station relocate burn

378

00:27:55,070 --> 00:27:52,200

will continue to increase the separation

379

00:27:56,870 --> 00:27:55,080

distance between Dragon Endeavor and the

380

00:27:58,909 --> 00:27:56,880

International Space Station up through

381

00:28:01,730 --> 00:27:58,919

the docking access to the 60 meter Point

382

00:28:17,510 --> 00:28:01,740

uh the point that the crew will then

383

00:28:21,830 --> 00:28:19,190

again no video from the International

384

00:28:25,669 --> 00:28:21,840

Space Station but we are getting data in

385

00:29:00,710 --> 00:28:28,669

showing the uh dragon and its nominal uh

386

00:29:04,909 --> 00:29:03,350

Dragon SpaceX ground has confirmed

387

00:29:09,590 --> 00:29:04,919

Goodwill now performance and will be

388

00:29:09,600 --> 00:29:26,870

ing copies

389

00:29:26,880 --> 00:29:35,269

it's getting great uh

390

00:29:35,279 --> 00:29:49,250

copy

391

00:29:49,260 --> 00:30:04,850

dragon is in command hold one

392

00:30:07,669 --> 00:30:06,409

this Dragon Endeavor passes over a

393

00:30:09,649 --> 00:30:07,679

ground station

394

00:30:11,389 --> 00:30:09,659

still waiting for a communication from

395

00:30:13,190 --> 00:30:11,399

the station but we are able to get video

396

00:30:15,289 --> 00:30:13,200

from Dragon itself as the center line

397

00:30:17,269 --> 00:30:15,299

camera looking right down at its

398

00:30:19,549 --> 00:30:17,279

original docking port that Zenith Port

399

00:30:22,250 --> 00:30:19,559

that you see at the front end of the

400

00:30:23,990 --> 00:30:22,260

station at the harmony module

401
00:30:26,149 --> 00:30:24,000
it backed away and commanded a hold

402
00:30:32,450 --> 00:30:26,159
approximately

403
00:30:35,690 --> 00:30:34,370
teams are now assessing to make sure

404
00:30:37,909 --> 00:30:35,700
everything is ready for that transition

405
00:30:59,630 --> 00:30:37,919
maneuver that gets into the new docking

406
00:31:06,289 --> 00:31:03,889
that hold is settling at just under 89

407
00:31:08,389 --> 00:31:06,299
meters John has confirmed good well now

408
00:31:11,990 --> 00:31:08,399
performance you are go to command go to

409
00:31:49,430 --> 00:31:14,269
hi it's Amanda and go to relocate

410
00:31:53,570 --> 00:31:51,710
so we just completed a hold for

411
00:31:55,190 --> 00:31:53,580
redocking systems and Alignment

412
00:31:58,970 --> 00:31:55,200
evaluation then

413
00:32:01,549 --> 00:31:58,980

got a go for the maneuver to begin

414

00:32:02,930 --> 00:32:01,559

dragging moving towards its new docking

415

00:32:05,750 --> 00:32:02,940

port

416

00:32:08,690 --> 00:32:05,760

now this process will take about 15

417

00:32:14,750 --> 00:32:12,289

and this will move the dragon vehicle

418

00:32:17,510 --> 00:32:14,760

towards the forward Port of Harmony and

419

00:32:20,750 --> 00:32:17,520

Ida 2 or the international docking

420

00:32:23,510 --> 00:32:20,760

adapter 2. you can see on your screen

421

00:32:26,510 --> 00:32:23,520

the transition maneuver is what will

422

00:32:31,669 --> 00:32:26,520

happen next that move from the current

423

00:32:31,679 --> 00:32:36,669

port

424

00:32:36,679 --> 00:32:41,029

that's right Jesse and

425

00:32:45,470 --> 00:32:44,149

that Retreat got us to just under 90

426
00:32:47,690 --> 00:32:45,480
meters

427
00:32:50,930 --> 00:32:47,700
so to get to that transition point the

428
00:32:53,930 --> 00:32:50,940
crew is actually making a slow

429
00:32:57,529 --> 00:32:53,940
maneuvered still along the undocking

430
00:33:00,529 --> 00:32:57,539
axis to get back down to the original 60

431
00:33:02,510 --> 00:33:00,539
meter hold point

432
00:33:04,549 --> 00:33:02,520
so they're actually it kind of looks

433
00:33:06,169 --> 00:33:04,559
like they're redocking a bit but all

434
00:33:08,990 --> 00:33:06,179
they're doing is just getting to that

435
00:33:10,850 --> 00:33:09,000
transition whole point Dragon SpaceX you

436
00:33:15,549 --> 00:33:10,860
have a go to raise visors per crew

437
00:33:28,549 --> 00:33:17,810
just make that smacking advisors coming

438
00:33:32,149 --> 00:33:31,370

again the most critical moments of the

439

00:33:34,009 --> 00:33:32,159

uh

440

00:33:36,529 --> 00:33:34,019

Port relocation maneuver are the

441

00:33:38,570 --> 00:33:36,539

undocking and re-docking

442

00:33:40,549 --> 00:33:38,580

the actual contact with the

443

00:33:42,110 --> 00:33:40,559

international docking adapters on the

444

00:33:44,389 --> 00:33:42,120

International Space Station during those

445

00:33:46,130 --> 00:33:44,399

times visors are down the crew has that

446

00:33:47,990 --> 00:33:46,140

extra layer of protection but during the

447

00:33:51,289 --> 00:33:48,000

transition maneuver they do have the

448

00:33:53,389 --> 00:33:51,299

ability to open up their visors

449

00:33:57,769 --> 00:33:53,399

and you'll see them close those visors

450

00:33:59,690 --> 00:33:57,779

once again once we get the initiation to

451
00:34:02,269 --> 00:33:59,700
go inside Waypoint two

452
00:34:11,510 --> 00:34:02,279
and redoc on the new axis on the forward

453
00:34:16,790 --> 00:34:13,250
again what the crew is doing is coming

454
00:34:18,770 --> 00:34:16,800
back in to 60 meters they have a hold

455
00:34:21,109 --> 00:34:18,780
command a commanded hole that just under

456
00:34:24,409 --> 00:34:21,119
89 meters so they're making a slow and

457
00:34:26,570 --> 00:34:24,419
methodical movement inside still along

458
00:34:28,970 --> 00:34:26,580
that same undocking axis but they just

459
00:34:56,869 --> 00:34:28,980
want to meet the 60 meter point we're

460
00:35:01,970 --> 00:34:59,450
you're seeing live on your

461
00:35:03,650 --> 00:35:01,980
go ahead Gary

462
00:35:05,210 --> 00:35:03,660
did we were I was just listening to the

463
00:35:06,650 --> 00:35:05,220

flight controllers here and they should

464

00:35:08,810 --> 00:35:06,660

control Houston they're tracking this

465

00:35:10,730 --> 00:35:08,820

maneuver uh inside

466

00:35:13,370 --> 00:35:10,740

um to get to that 60 meter hold point

467

00:35:15,589 --> 00:35:13,380

and our um uh calling out some good

468

00:35:17,510 --> 00:35:15,599

reads so it looks like that maneuver is

469

00:35:33,950 --> 00:35:17,520

as expected to 60 meters everything's

470

00:35:38,270 --> 00:35:35,750

what you're seeing on your screen is a

471

00:35:41,210 --> 00:35:38,280

live view inside of dragon Endeavor and

472

00:35:45,349 --> 00:35:41,220

you can see on your left hand side in

473

00:35:49,190 --> 00:35:45,359

seat two is Commander Steve bone and in

474

00:36:29,109 --> 00:35:49,200

the seat on the right hand side is Woody

475

00:36:33,950 --> 00:36:31,490

dragon has reached the 60 meter whole

476
00:36:35,690 --> 00:36:33,960
point and you are go to command relocate

477
00:36:38,089 --> 00:36:35,700
transfer to begin access transition

478
00:36:39,829 --> 00:36:38,099
reminder that soft capture ring deploy

479
00:36:44,450 --> 00:36:39,839
will begin in the relocate to access

480
00:36:44,460 --> 00:36:51,349
shooting relocate transfers

481
00:36:56,870 --> 00:36:53,810
station Houston on the big loop monitor

482
00:37:05,569 --> 00:36:56,880
for step six and one decimal 602 Dragon

483
00:37:05,579 --> 00:37:20,230
foreign

484
00:37:25,910 --> 00:37:23,930
the command the the crew again as a

485
00:37:28,790 --> 00:37:25,920
recap the crew did reach that 60 meter

486
00:37:31,430 --> 00:37:28,800
whole point coming in from 89 meters and

487
00:37:32,930 --> 00:37:31,440
with uh good uh data being received from

488
00:37:35,450 --> 00:37:32,940

here in Mission Control Houston teams

489

00:37:37,970 --> 00:37:35,460

gave a go uh to initiate that transition

490

00:37:40,310 --> 00:37:37,980

maneuver so it is slow and methodical

491

00:37:43,670 --> 00:37:40,320

it's about it's a two-step process to

492

00:37:47,210 --> 00:37:43,680

transition to the new axis by way of a

493

00:37:50,210 --> 00:37:47,220

midpoint uh so from the original docking

494

00:37:52,550 --> 00:37:50,220

axis to the midpoint is approximately an

495

00:37:54,410 --> 00:37:52,560

11 minute maneuver

496

00:37:56,150 --> 00:37:54,420

um it sort of looks like the tip of a

497

00:37:58,609 --> 00:37:56,160

triangle the maneuver to get from one

498

00:38:01,849 --> 00:37:58,619

docking axis to the other

499

00:38:04,010 --> 00:38:01,859

so it goes straight out to the midpoint

500

00:38:06,890 --> 00:38:04,020

about the halfway point between the two

501
00:38:09,770 --> 00:38:06,900
axes and then from the midpoints of the

502
00:38:13,970 --> 00:38:09,780
transition initiates another maneuver to

503
00:38:16,609 --> 00:38:13,980
get down to the new docking axis

504
00:38:19,130 --> 00:38:16,619
the transition is from 60 meters on the

505
00:39:13,010 --> 00:38:19,140
undocking axis to 60 meters on the new

506
00:39:21,829 --> 00:39:15,170
so we should be regaining some video

507
00:39:26,990 --> 00:39:25,190
what you're seeing here is the feed from

508
00:39:28,910 --> 00:39:27,000
Dragon being fed to the International

509
00:39:31,190 --> 00:39:28,920
Space Station by way of a common

510
00:39:33,710 --> 00:39:31,200
Communications panel called the c2v2

511
00:39:35,390 --> 00:39:33,720
that allows a data transmission from

512
00:39:37,310 --> 00:39:35,400
Dragon Endeavor to the International

513
00:39:39,290 --> 00:39:37,320

Space Station from the International

514

00:39:42,650 --> 00:39:39,300

Space Station's tracking and data relay

515

00:39:45,230 --> 00:39:42,660

satellite Network the near space Network

516

00:39:47,450 --> 00:39:45,240

we're getting that video from dragon as

517

00:39:48,950 --> 00:39:47,460

we move our way outside of the ground

518

00:39:52,130 --> 00:39:48,960

stations that we're providing video

519

00:39:54,290 --> 00:39:52,140

feeds directly from dragon

520

00:39:56,329 --> 00:39:54,300

everything's looking good on this port

521

00:40:09,950 --> 00:39:56,339

relocation maneuver so far again it's

522

00:40:16,970 --> 00:40:13,250

just a quick um recap as to why we are

523

00:40:19,250 --> 00:40:16,980

doing the port relocation maneuver

524

00:40:22,910 --> 00:40:19,260

just a high level what we're doing today

525

00:40:24,470 --> 00:40:22,920

is to move from the Zenith Port of the

526
00:40:26,810 --> 00:40:24,480
harmony module over to the

527
00:40:30,109 --> 00:40:26,820
forward-facing port so you see crew 66

528
00:40:32,990 --> 00:40:30,119
dragon on its original docking port is

529
00:40:35,870 --> 00:40:33,000
being moved to that forward side that

530
00:40:40,130 --> 00:40:35,880
you see on this new graphic

531
00:40:44,210 --> 00:40:40,140
the main reason is uh for the arrival of

532
00:40:46,790 --> 00:40:44,220
the Dragon cargo spacecraft crs-28

533
00:40:52,490 --> 00:40:49,069
carrying a precious cargo inside the

534
00:40:55,849 --> 00:40:52,500
unpressurized trunk section of the cargo

535
00:40:58,069 --> 00:40:55,859
Dragon vehicle our new irosis or roll

536
00:41:01,190 --> 00:40:58,079
out International Space Station roll out

537
00:41:02,750 --> 00:41:01,200
solar arrays this is part of a series of

538
00:41:04,550 --> 00:41:02,760

power upgrades to the International

539

00:41:06,829 --> 00:41:04,560

Space Station

540

00:41:08,690 --> 00:41:06,839

that are being planned there's been

541

00:41:12,770 --> 00:41:08,700

several space walks to prepare to

542

00:41:15,530 --> 00:41:12,780

install uh already for uh

543

00:41:16,849 --> 00:41:15,540

irosas which are currently installed and

544

00:41:19,790 --> 00:41:16,859

providing power to the International

545

00:41:25,130 --> 00:41:21,710

there's plan to be an additional two

546

00:41:27,710 --> 00:41:25,140

coming up on crs-28 docking to the

547

00:41:29,930 --> 00:41:27,720

Zenith Port allows the robotic arm and

548

00:41:33,050 --> 00:41:29,940

this graphic you see sort of to the

549

00:41:34,730 --> 00:41:33,060

right of the 1A power channel that Canon

550

00:41:37,010 --> 00:41:34,740

arm II

551
00:41:39,710 --> 00:41:37,020
or position itself and move itself along

552
00:41:41,630 --> 00:41:39,720
the station's truss and reach out to

553
00:41:43,310 --> 00:41:41,640
grab the irosis from the unpressurized

554
00:41:47,270 --> 00:41:43,320
truck trunk

555
00:41:49,370 --> 00:41:47,280
the reach of the Canon arm 2 is just so

556
00:41:52,910 --> 00:41:49,380
that they can reach the Zenith Port

557
00:41:56,150 --> 00:41:52,920
can't quite reach the forward port

558
00:41:59,630 --> 00:41:56,160
so this relocation maneuver allows for

559
00:42:01,730 --> 00:41:59,640
Dragon to position to the crew the

560
00:42:04,430 --> 00:42:01,740
dragon crude vehicle

561
00:42:05,089 --> 00:42:04,440
um to easily move between the two

562
00:42:08,329 --> 00:42:05,099
um

563
00:42:11,030 --> 00:42:08,339

ports so that the dragon cargo vehicle

564

00:42:13,069 --> 00:42:11,040

can arrive on the Zenith ports uh that

565

00:42:15,109 --> 00:42:13,079

launch is currently targeted for June

566

00:42:17,030 --> 00:42:15,119

3rd

567

00:42:19,609 --> 00:42:17,040

in between that operation we are

568

00:42:21,290 --> 00:42:19,619

scheduled uh to launch the Axiom mission

569

00:42:22,730 --> 00:42:21,300

2 private astronaut mission to the

570

00:42:25,310 --> 00:42:22,740

station

571

00:42:28,130 --> 00:42:25,320

they will depart in late May

572

00:42:31,130 --> 00:42:28,140

and that will also dock to that Zenith

573

00:42:34,069 --> 00:42:31,140

or space-facing port

574

00:42:37,790 --> 00:42:34,079

leaving with enough margin for the cargo

575

00:42:46,010 --> 00:42:37,800

vehicle to come and bring the irosis to

576
00:42:51,410 --> 00:42:48,589
yeah that's right Gary and right now you

577
00:42:54,109 --> 00:42:51,420
know we have the crew 6 crew on board

578
00:42:57,410 --> 00:42:54,119
and they are the crew that is relocating

579
00:43:00,109 --> 00:42:57,420
the dragon vehicle currently today we'll

580
00:43:02,089 --> 00:43:00,119
mark the 64th day on station for This

581
00:43:05,690 --> 00:43:02,099
Crew who lifted off from Kennedy Space

582
00:43:08,270 --> 00:43:05,700
Center on March 2nd at 12 34 a.m eastern

583
00:43:10,130 --> 00:43:08,280
time and arrived arrived at station

584
00:43:11,990 --> 00:43:10,140
about 24 hours later

585
00:43:13,490 --> 00:43:12,000
and so far the crew members have

586
00:43:15,290 --> 00:43:13,500
dedicated hundreds of hours to

587
00:43:19,030 --> 00:43:15,300
scientific research in the orbiting

588
00:43:21,829 --> 00:43:19,040

laboratory unless we Bowen and Al

589

00:43:24,470 --> 00:43:21,839

al-niadi completed a spacewalk to

590

00:43:26,690 --> 00:43:24,480

prepare for upcoming solar array

591

00:43:29,030 --> 00:43:26,700

installation that Gary was mentioning

592

00:43:31,670 --> 00:43:29,040

those arrays will then launch this

593

00:43:35,210 --> 00:43:31,680

summer as he mentioned on the cargo

594

00:43:37,490 --> 00:43:35,220

space on the cargo Dragon spacecraft

595

00:43:40,430 --> 00:43:37,500

and the mission is the sixth certified

596

00:43:41,990 --> 00:43:40,440

crew mission NASA and SpaceX have

597

00:44:21,410 --> 00:43:42,000

planned as part of the agency's

598

00:44:25,309 --> 00:44:23,630

video from the International Space

599

00:44:27,349 --> 00:44:25,319

Station as we're in an orbital nighttime

600

00:44:30,109 --> 00:44:27,359

we're now currently over the North

601
00:44:31,670 --> 00:44:30,119
Pacific Ocean you can see the navigation

602
00:44:34,010 --> 00:44:31,680
lights

603
00:44:35,930 --> 00:44:34,020
coming from dragon

604
00:44:41,089 --> 00:44:35,940
the starboard green light and the port

605
00:44:45,829 --> 00:44:43,069
as well as the internal cabin lights

606
00:44:49,730 --> 00:44:48,050
that window on the forward bulkhead

607
00:45:37,849 --> 00:44:49,740
section

608
00:45:44,030 --> 00:45:40,790
a quick recap the crew undocked from the

609
00:45:46,130 --> 00:45:44,040
Zenith or space-facing port at 623 am

610
00:45:49,370 --> 00:45:46,140
Central Time

611
00:45:52,609 --> 00:45:49,380
made its way along the docking axis

612
00:45:54,470 --> 00:45:52,619
down over to the transition point and

613
00:45:56,290 --> 00:45:54,480

from the transition point at about 60

614

00:45:59,390 --> 00:45:56,300
meters

615

00:46:01,490 --> 00:45:59,400
initiated a transfer maneuver

616

00:46:23,450 --> 00:46:01,500
to the midpoint dragon has reached the

617

00:46:28,130 --> 00:46:25,849
this graphic uh

618

00:46:29,930 --> 00:46:28,140
does a good job of showing that maneuver

619

00:46:31,490 --> 00:46:29,940
again it looks like this sort of the tip

620

00:46:33,410 --> 00:46:31,500
of a triangle

621

00:46:36,170 --> 00:46:33,420
it's a two-step process to get from the

622

00:46:38,930 --> 00:46:36,180
original docking access to the new axis

623

00:46:41,809 --> 00:46:38,940
by way of a midpoint

624

00:46:45,109 --> 00:46:41,819
made the wood Waypoint a little sooner

625

00:46:47,450 --> 00:46:45,119
than anticipated making great time

626
00:46:49,670 --> 00:46:47,460
that's a smooth transition from the

627
00:46:51,470 --> 00:46:49,680
midpoint there's no hold at the midpoint

628
00:46:53,630 --> 00:46:51,480
it just uh

629
00:46:56,510 --> 00:46:53,640
makes a maneuver directly to the new

630
00:47:03,970 --> 00:46:56,520
axis the Target on the new axis is about

631
00:47:08,450 --> 00:47:06,470
come on

632
00:47:11,390 --> 00:47:08,460
latest calls from here in Mission

633
00:47:15,890 --> 00:47:11,400
Control Houston show approximately an

634
00:47:23,630 --> 00:47:20,210
so sometime around 6 50 a.m central time

635
00:47:28,790 --> 00:47:23,640
is when we can expect arrival at the new

636
00:47:34,490 --> 00:47:31,609
again in the meantime flight controllers

637
00:47:39,410 --> 00:47:34,500
will continue to monitor all the systems

638
00:48:53,870 --> 00:47:42,349

everything going very smoothly for this

639

00:48:59,630 --> 00:48:57,010

station and dragon are approximately

640

00:49:02,690 --> 00:48:59,640

263 statute miles above the North

641

00:49:08,210 --> 00:49:05,630

we're expecting sunrise in just about a

642

00:49:11,390 --> 00:49:08,220

minute we should be getting

643

00:49:13,069 --> 00:49:11,400

something some better views from the uh

644

00:49:14,870 --> 00:49:13,079

International Space Station and dragon

645

00:49:16,970 --> 00:49:14,880

as they start to eliminate we've been

646

00:49:21,349 --> 00:49:16,980

conducting this operation so far

647

00:49:24,470 --> 00:49:23,270

so as we transition to the new axis

648

00:49:26,690 --> 00:49:24,480

we'll hopefully be getting some better

649

00:49:28,609 --> 00:49:26,700

views in the current plan as long as we

650

00:49:32,150 --> 00:49:28,619

stick on the timeline again this is a

651
00:49:35,450 --> 00:49:32,160
very flexible procedure

652
00:49:37,370 --> 00:49:35,460
we can command holds if needed but so

653
00:50:58,910 --> 00:49:37,380
far the timeline gets us to dock during

654
00:51:03,010 --> 00:51:01,250
if you're just now joining us crew

655
00:51:07,210 --> 00:51:03,020
dragon has

656
00:51:10,309 --> 00:51:07,220
undocked from the station it first

657
00:51:14,030 --> 00:51:10,319
detached its two umbilicals that connect

658
00:51:16,849 --> 00:51:14,040
power and data and then d uh the 12

659
00:51:18,109 --> 00:51:16,859
hooks holding dragon in place

660
00:51:20,750 --> 00:51:18,119
um retracted

661
00:51:22,690 --> 00:51:20,760
the thrusters on Dragon the Draco

662
00:51:25,010 --> 00:51:22,700
thrusters

663
00:51:28,130 --> 00:51:25,020

thrusted the vehicle

664

00:52:12,589 --> 00:51:28,140

away from the station and now the

665

00:52:17,270 --> 00:52:15,109

as we enter into an orbital daytime the

666

00:52:21,530 --> 00:52:17,280

views of dragon Endeavor are starting to

667

00:52:25,370 --> 00:52:23,690

you can see the camera from the uh on

668

00:52:27,109 --> 00:52:25,380

the one of the external cameras on the

669

00:52:29,690 --> 00:52:27,119

International Space Station trained on

670

00:52:32,690 --> 00:52:29,700

Dragon endeavor

671

00:52:34,370 --> 00:52:32,700

it's currently a little over 57 meters

672

00:52:38,150 --> 00:52:34,380

from the International Space Station

673

00:52:39,770 --> 00:52:38,160

making its way to the new docking axis

674

00:52:40,549 --> 00:52:39,780

that transition maneuver looking pretty

675

00:52:43,910 --> 00:52:40,559

good

676
00:52:46,730 --> 00:52:43,920
you can see the Draco thrusters firing

677
00:52:50,750 --> 00:52:46,740
to continue orienting

678
00:52:57,650 --> 00:52:53,809
in such a way that its trajectory is is

679
00:52:59,930 --> 00:52:57,660
planned to meet with the new axis

680
00:53:04,010 --> 00:52:59,940
right now teams here in Mission Control

681
00:53:29,510 --> 00:53:06,349
to consider a smooth transition at the

682
00:53:33,230 --> 00:53:31,010
we're expecting a rival on the new

683
00:54:27,890 --> 00:53:33,240
docking access in approximately two

684
00:54:32,930 --> 00:54:30,470
and as uh dragon Endeavor continues its

685
00:54:36,109 --> 00:54:32,940
approach to the new docking axis that 60

686
00:54:37,849 --> 00:54:36,119
meter point we can't expect to hold at

687
00:54:40,010 --> 00:54:37,859
about 60 meters before proceeding into

688
00:55:25,730 --> 00:54:40,020

the next Waypoint Waypoint two which is

689

00:55:30,470 --> 00:55:28,609

Dragon station SpaceX on the big loop

690

00:55:32,270 --> 00:55:30,480

dragon has arrived at the second 60

691

00:55:34,670 --> 00:55:32,280

meter whole point and is configured for

692

00:55:42,500 --> 00:55:34,680

docking confirm Readiness for approach

693

00:55:42,510 --> 00:55:49,690

[Music]

694

00:55:49,700 --> 00:56:09,950

Chicago's ready

695

00:56:15,530 --> 00:56:12,049

you're the call up to the crew aboard

696

00:56:28,329 --> 00:56:17,690

Endeavor currently holding at the 60

697

00:56:28,339 --> 00:56:49,690

and Dragons down by for ground pool

698

00:56:54,829 --> 00:56:52,609

dragging ground is go and you have a go

699

00:56:58,430 --> 00:56:54,839

to command resume to approach Waypoint

700

00:56:58,440 --> 00:57:04,549

2

701
00:57:04,559 --> 00:57:18,530
absolutely

702
00:57:23,750 --> 00:57:21,470
great news dragon has arrived at the

703
00:57:26,270 --> 00:57:23,760
docking access

704
00:57:28,910 --> 00:57:26,280
approach is resuming to Waypoint two

705
00:57:31,130 --> 00:57:28,920
monitor per step three and one decimal

706
00:57:35,750 --> 00:57:31,140
102 Dragon approach and Retreat

707
00:57:35,760 --> 00:58:04,670
stuff one decimal one zero two

708
00:58:09,410 --> 00:58:07,730
and dragon has already resumed or has

709
00:58:13,010 --> 00:58:09,420
already made it to the docking access

710
00:58:15,290 --> 00:58:13,020
they did a poll a go no go pull to

711
00:58:18,349 --> 00:58:15,300
approach wave point two and got the go

712
00:58:21,049 --> 00:58:18,359
so now they are currently approaching

713
00:58:23,390 --> 00:58:21,059

Waypoint two

714

00:58:25,730 --> 00:58:23,400

dragon is going to hold

715

00:58:27,950 --> 00:58:25,740

one final time for teams on the ground

716

00:58:30,049 --> 00:58:27,960

the astronauts aboard Dragon to do a

717

00:58:32,210 --> 00:58:30,059

final check before docking to the

718

00:58:34,309 --> 00:58:32,220

station now there aren't any strict

719

00:58:36,589 --> 00:58:34,319

requirements to complete docking during

720

00:58:38,450 --> 00:58:36,599

a day or night pass but there is always

721

00:58:40,970 --> 00:58:38,460

the chance that this hold could continue

722

00:58:42,710 --> 00:58:40,980

until playing conditions on the docking

723

00:58:45,770 --> 00:58:42,720

port are ideal

724

00:58:49,430 --> 00:58:45,780

now once dragon is ready it will begin

725

00:58:49,440 --> 00:58:54,230

business Dragon advises are down

726

00:58:54,240 --> 00:59:01,970

copy advisors are down

727

00:59:07,130 --> 00:59:04,069

and again that extra layer of protection

728

00:59:09,589 --> 00:59:07,140

through the delicate maneuver of docking

729

00:59:11,450 --> 00:59:09,599

to the International Space Station

730

00:59:13,370 --> 00:59:11,460

visors are down through this through

731

00:59:15,950 --> 00:59:13,380

this maneuver to Waypoint two they're

732

00:59:22,549 --> 00:59:15,960

making great progress from 60 meters to

733

00:59:27,289 --> 00:59:24,650

station Houston

734

00:59:37,910 --> 00:59:27,299

on step three please let us know when

735

00:59:37,920 --> 00:59:46,190

complete

736

00:59:46,200 --> 00:59:49,789

copy

737

00:59:54,710 --> 00:59:52,430

again many many players in this uh

738

00:59:57,589 --> 00:59:54,720

delicate maneuver you're hearing

739

00:59:59,870 --> 00:59:57,599

station Houston at Waypoint two dragon

740

01:00:13,150 --> 00:59:59,880

will briefly pause to a line for docking

741

01:00:17,569 --> 01:00:16,010

Dragon SpaceX on the big loop gun has

742

01:00:20,030 --> 01:00:17,579

pulled go for approach two will be

743

01:00:21,710 --> 01:00:20,040

commanding approach allowed shortly as a

744

01:00:23,630 --> 01:00:21,720

reminder once dragon is in the crew

745

01:00:28,849 --> 01:00:23,640

hands-off Point Retreat and breakout are

746

01:00:28,859 --> 01:00:37,730

copies and we see approach enabled

747

01:00:41,930 --> 01:00:39,710

oh you can hear these

748

01:00:43,910 --> 01:00:41,940

station Houston dragon is on Final

749

01:00:52,609 --> 01:00:43,920

Approach and is go for docking station

750

01:00:59,089 --> 01:00:55,630

and fishing coffees and our modeling the

751

01:00:59,099 --> 01:01:07,250

those are good words step five

752

01:01:11,630 --> 01:01:09,109

all right lots of action in that last

753

01:01:14,030 --> 01:01:11,640

minute or so

754

01:01:17,870 --> 01:01:14,040

the team's uh dragon has a has a

755

01:01:22,490 --> 01:01:17,880

relatively new capability to um pause at

756

01:01:28,970 --> 01:01:26,270

the transition from at Waypoint two is

757

01:01:30,349 --> 01:01:28,980

instead of a commanded hold it is an

758

01:01:32,510 --> 01:01:30,359

approach prep which is about a one

759

01:01:35,390 --> 01:01:32,520

minute pause and you can see the resume

760

01:01:38,750 --> 01:01:35,400

uh has already begun from Waypoint two

761

01:01:42,470 --> 01:01:38,760

so we are closing in inside 20 meters uh

762

01:01:45,770 --> 01:01:42,480

actually 17 millimeters and closing at a

763

01:01:45,780 --> 01:02:10,609

about eight centimeters a second

764

01:02:16,010 --> 01:02:13,490

15 meters

765

01:02:18,170 --> 01:02:16,020

teams are tracking a good approach we're

766

01:03:06,710 --> 01:02:18,180

expecting contact in approximately three

767

01:03:06,720 --> 01:03:22,190

copy 10 meters

768

01:03:28,549 --> 01:03:24,530

this dragon is slowly approaching we did

769

01:03:31,670 --> 01:03:28,559

hear a call or a crew a hands-off point

770

01:03:33,230 --> 01:03:31,680

that is where uh the spacecraft when

771

01:03:34,970 --> 01:03:33,240

it's about two meters away from the

772

01:03:38,150 --> 01:03:34,980

docking port

773

01:03:39,950 --> 01:03:38,160

um and that means that any aborts uh

774

01:03:41,930 --> 01:03:39,960

need to be initiated by dragon's flight

775

01:03:45,109 --> 01:03:41,940

computer after that point rather than by

776

01:03:48,950 --> 01:03:47,089

then the vehicle will stand by for

777

01:03:50,750 --> 01:03:48,960

initial contact and capture and then

778

01:03:56,870 --> 01:03:50,760

will be followed by a series of events

779

01:04:02,569 --> 01:03:58,430

that's right Jesse and you can see that

780

01:04:06,470 --> 01:04:04,910

we'll report the docking time at the

781

01:04:08,569 --> 01:04:06,480

time of physical contact and

782

01:04:21,410 --> 01:04:08,579

confirmation of a soft dock

783

01:04:38,450 --> 01:04:23,630

such a cool view here as Dragon

784

01:04:38,460 --> 01:04:44,150

three meters in closing

785

01:04:53,750 --> 01:04:46,210

Raiders

786

01:04:53,760 --> 01:04:58,789

two meters chop our crew hands off point

787

01:04:58,799 --> 01:05:13,609

copy one meter

788

01:05:13,619 --> 01:05:19,309

soft capture complete

789

01:05:19,319 --> 01:05:25,190

zombies and concurs

790

01:05:29,210 --> 01:05:27,950

that docking time is 701 a.m Central

791

01:05:30,890 --> 01:05:29,220

Time

792

01:05:33,650 --> 01:05:30,900

dragon and station at the time of

793

01:05:35,569 --> 01:05:33,660

docking were 262 statute miles off the

794

01:05:37,789 --> 01:05:35,579

east coast

795

01:06:00,349 --> 01:05:37,799

of the United States just off the coast

796

01:06:00,359 --> 01:06:07,250

you bring the traction in progress

797

01:06:07,260 --> 01:06:12,770

Ive

798

01:06:17,450 --> 01:06:15,109

the soft capture ring on Dragon you can

799

01:06:18,650 --> 01:06:17,460

see is retracting pulling dragon in

800

01:06:20,030 --> 01:06:18,660

physically

801
01:06:23,030 --> 01:06:20,040
to meet up with the international

802
01:06:25,670 --> 01:06:23,040
docking adapter

803
01:06:27,950 --> 01:06:25,680
this maneuver sets Dragon up to

804
01:06:30,589 --> 01:06:27,960
um position itself in such a way to

805
01:06:32,630 --> 01:06:30,599
start the hard capture sequence

806
01:06:36,230 --> 01:06:32,640
really the reverse of what we just saw

807
01:06:39,770 --> 01:06:36,240
for undocking from the Zenith port

808
01:06:43,190 --> 01:06:39,780
we'll attach uh dragon Endeavor by way

809
01:06:45,829 --> 01:06:43,200
of 12 hooks that secure dragon to the

810
01:06:48,109 --> 01:06:45,839
station followed by extending an

811
01:06:50,150 --> 01:06:48,119
umbilical connection

812
01:06:51,410 --> 01:06:50,160
and allowing the transfer of power and

813
01:06:54,650 --> 01:06:51,420

data from the International Space

814

01:06:54,660 --> 01:07:22,609

as well as reverse

815

01:07:27,470 --> 01:07:24,589

as Gary mentioned we will see the

816

01:07:31,970 --> 01:07:27,480

reverse of what we saw during undocking

817

01:07:34,010 --> 01:07:31,980

first six hooks will begin to deploy and

818

01:07:36,829 --> 01:07:34,020

then the second set of six hooks will

819

01:07:39,770 --> 01:07:36,839

deploy followed by the umbilicals and

820

01:07:43,130 --> 01:07:39,780

this process will take about 15 minutes

821

01:07:47,809 --> 01:07:45,710

and after all docking events are

822

01:07:50,410 --> 01:07:47,819

successful then flight controllers will

823

01:07:53,930 --> 01:07:50,420

configure Dragon 4 dock operations

824

01:07:55,789 --> 01:07:53,940

connecting power and data to spacecraft

825

01:07:58,190 --> 01:07:55,799

the crew will be able to get out of

826

01:08:00,410 --> 01:07:58,200

their suits and set them up to dry and

827

01:08:01,370 --> 01:08:00,420

begin operations to get the hatches back

828

01:08:04,069 --> 01:08:01,380

open

829

01:08:06,650 --> 01:08:04,079

this includes pressurizing the vestibule

830

01:08:09,600 --> 01:08:06,660

and a new round of lead checks and

831

01:08:10,190 --> 01:08:09,610

depending on the exact timing they have

832

01:08:11,569 --> 01:08:10,200

[Music]

833

01:08:15,410 --> 01:08:11,579

um

834

01:08:17,150 --> 01:08:15,420

the option to have a meal if needed or

835

01:08:19,070 --> 01:08:17,160

they can wait until they're back on

836

01:08:21,110 --> 01:08:19,080

board station

837

01:08:50,510 --> 01:08:21,120

and we do expect it to take about two

838

01:08:53,209 --> 01:08:52,010

flight controller is tracking a good

839

01:08:55,490 --> 01:08:53,219

alignment

840

01:08:58,010 --> 01:08:55,500

has a soft capture ring retracts and

841

01:09:00,349 --> 01:08:58,020

pulls Dragon Endeavor in for a the hard

842

01:09:02,450 --> 01:09:00,359

capture sequence the alignment is good

843

01:09:04,130 --> 01:09:02,460

that means the next step will be to

844

01:09:19,450 --> 01:09:04,140

initiate that hard capture sequence

845

01:09:30,890 --> 01:09:21,950

correction complete docking sequences

846

01:09:30,900 --> 01:10:13,010

imagine talking

847

01:10:16,970 --> 01:10:15,169

just following along ring retraction is

848

01:10:20,450 --> 01:10:16,980

complete teams are assessing the

849

01:10:22,669 --> 01:10:20,460

alignment and uh we'll give the crew a

850

01:10:26,570 --> 01:10:22,679

status of when the hard catcher sequence

851
01:10:28,550 --> 01:10:26,580
starts with uh latching uh 12 hooks or

852
01:10:31,070 --> 01:10:28,560
initiating the driving of those 12 hooks

853
01:10:32,870 --> 01:10:31,080
to secure Dragon firmly to the station

854
01:10:35,270 --> 01:10:32,880
for a hard capture followed by the

855
01:10:37,490 --> 01:10:35,280
extension of an umbilical

856
01:10:38,390 --> 01:10:37,500
uh those hooks will be driven six at a

857
01:10:39,890 --> 01:10:38,400
time

858
01:10:41,689 --> 01:10:39,900
for those tracking

859
01:10:44,030 --> 01:10:41,699
um this maneuver today

860
01:11:05,750 --> 01:10:44,040
in Houston on the big loop MCS

861
01:11:11,630 --> 01:11:07,970
part of the delicate procedure here is

862
01:11:13,729 --> 01:11:11,640
uh a dance between the commands sent to

863
01:11:15,890 --> 01:11:13,739

dragon and the initiation of the hooks

864

01:11:18,050 --> 01:11:15,900

and the attitude control of the

865

01:11:19,790 --> 01:11:18,060

International Space Station itself

866

01:11:20,990 --> 01:11:19,800

through the hard capture sequence the

867

01:11:23,689 --> 01:11:21,000

International Space Station has

868

01:11:26,149 --> 01:11:23,699

transitioned to uh

869

01:11:39,890 --> 01:11:26,159

control its attitude on the control

870

01:11:42,830 --> 01:11:41,209

with the International Space Station

871

01:11:46,310 --> 01:11:42,840

attitude control configured the first

872

01:11:50,030 --> 01:11:47,930

again for those following along with

873

01:11:52,070 --> 01:11:50,040

today's operations undocking and

874

01:11:55,010 --> 01:11:52,080

physical separation from the station's

875

01:11:58,310 --> 01:11:55,020

Zenith Port is at 6 23 am central time

876

01:13:38,290 --> 01:11:58,320

and they redocked 38 minutes later 701

877

01:13:43,070 --> 01:13:40,729

so you can't see much from this view

878

01:13:45,110 --> 01:13:43,080

lots happening

879

01:13:47,510 --> 01:13:45,120

with some of the hardware on board

880

01:13:49,610 --> 01:13:47,520

Dragon those first set of hooks are

881

01:13:50,990 --> 01:13:49,620

complete the second is driving again

882

01:13:52,790 --> 01:13:51,000

there are 12 hooks that will secure

883

01:13:54,950 --> 01:13:52,800

dragging the station and hard capture

884

01:13:58,130 --> 01:13:54,960

complete will occur once the umbilical

885

01:14:08,770 --> 01:13:58,140

is mated between dragon and the

886

01:14:14,030 --> 01:14:11,750

you are seeing is crew Dragon having

887

01:14:16,910 --> 01:14:14,040

moved from Ida 3 or the international

888

01:14:21,830 --> 01:14:16,920

docking adapter 3 on the Z nits or

889

01:14:25,490 --> 01:14:21,840

space-facing Harmony Port 2 Ida 2 on the

890

01:15:29,990 --> 01:14:28,490

and it is currently in progress of

891

01:15:30,000 --> 01:15:51,950

hard capture complete

892

01:15:51,960 --> 01:17:06,410

okay

893

01:17:11,630 --> 01:17:08,750

you did hear that call out that the hard

894

01:17:16,970 --> 01:17:11,640

capture has been completed what that

895

01:17:19,430 --> 01:17:16,980

means is the 12 hooks are now deployed

896

01:17:21,830 --> 01:17:19,440

we are just waiting for

897

01:17:34,850 --> 01:17:21,840

the completion of the umbilical

898

01:17:39,890 --> 01:17:37,970

and the umbilical provides power and

899

01:17:55,370 --> 01:17:39,900

data

900

01:18:09,470 --> 01:17:57,350

and the umbilical is currently being

901
01:18:09,480 --> 01:18:13,189
Houston Station

902
01:18:13,199 --> 01:18:17,450
403

903
01:18:21,590 --> 01:18:19,910
docking sequence complete crew Dragon

904
01:18:23,450 --> 01:18:21,600
Endeavor welcome back to the

905
01:18:28,790 --> 01:18:23,460
International Space Station sounds like

906
01:18:36,550 --> 01:18:31,070
it's like Dragon we hope so and we hope

907
01:18:41,090 --> 01:18:38,870
great job for the team all around and

908
01:18:42,950 --> 01:18:41,100
welcome back guys

909
01:18:44,390 --> 01:18:42,960
copy that dragon ground will be enabling

910
01:18:46,850 --> 01:18:44,400
Heartland power and calm connection

911
01:18:49,189 --> 01:18:46,860
shortly you are go to Dolph suits per

912
01:18:55,480 --> 01:18:49,199
procedure for decimal zero one two we

913
01:18:59,930 --> 01:18:56,750

[Music]

914

01:19:04,669 --> 01:19:01,790

Dragon Houston welcome back to station

915

01:19:06,709 --> 01:19:04,679

and station Houston Frankie gotta go for

916

01:19:17,030 --> 01:19:06,719

your next activity in one decimal four

917

01:19:20,689 --> 01:19:18,470

all right you heard that those

918

01:19:23,149 --> 01:19:20,699

congratulatory words all around from

919

01:19:24,709 --> 01:19:23,159

Steve Bowen Commander inside the crew

920

01:19:26,270 --> 01:19:24,719

Dragon Endeavor from inside the

921

01:19:28,030 --> 01:19:26,280

International Space Station Frank Rubio

922

01:19:32,209 --> 01:19:28,040

and here in Mission Control Houston

923

01:19:35,689 --> 01:19:32,219

Capcom Alex canalikos now that uh crew

924

01:19:36,950 --> 01:19:35,699

six is uh hard docked and uh ready and

925

01:19:39,590 --> 01:19:36,960

docked to the International Space

926

01:19:42,229 --> 01:19:39,600

Station uh NASA astronaut Steve Bowen

927

01:19:44,330 --> 01:19:42,239

Woody hoberg emirati astronaut Sultan on

928

01:19:47,030 --> 01:19:44,340

the audience was Cosmos Cosmonaut Andre

929

01:19:48,410 --> 01:19:47,040

fedayev have officially redocked to the

930

01:19:49,790 --> 01:19:48,420

International Space Station so we're

931

01:19:52,430 --> 01:19:49,800

going to wrap up our live coverage of

932

01:19:54,350 --> 01:19:52,440

dragons third port relocation maneuver

933

01:19:55,729 --> 01:19:54,360

the crew now has time to get out of

934

01:19:57,470 --> 01:19:55,739

their suits and begin the process of

935

01:20:00,050 --> 01:19:57,480

opening up the hatches that'll take

936

01:20:01,850 --> 01:20:00,060

about approximately two hours as

937

01:20:03,410 --> 01:20:01,860

mentioned earlier the relocation has

938

01:20:05,510 --> 01:20:03,420

freed up Harmony's Zenith or

939

01:20:08,450 --> 01:20:05,520

space-facing port for the docking of

940

01:20:10,610 --> 01:20:08,460

SpaceX 20 spacex's 28th

941

01:20:12,169 --> 01:20:10,620

commercial resupply mission to the

942

01:20:15,290 --> 01:20:12,179

International Space Station and of

943

01:20:17,750 --> 01:20:15,300

course we expect Axiom mission 2 to dock

944

01:20:21,410 --> 01:20:17,760

later this month

945

01:20:23,270 --> 01:20:21,420

Zenith parking spot for spacex's 28th

946

01:20:25,550 --> 01:20:23,280

commercial we support resupply Mission

947

01:20:28,010 --> 01:20:25,560

allows for the Canon arm 2 to more

948

01:20:30,050 --> 01:20:28,020

easily access the iorosis or the new

949

01:20:34,130 --> 01:20:30,060

solar arrays that will arrive in

950

01:20:38,450 --> 01:20:36,470

and meanwhile crew 6 will remain on

951
01:20:40,910 --> 01:20:38,460
station until this fall targeting late

952
01:20:43,310 --> 01:20:40,920
August for a return to Earth inside crew

953
01:20:46,130 --> 01:20:43,320
Dragon Endeavor off the coast of Florida

954
01:20:48,110 --> 01:20:46,140
but before they go NASA's SpaceX crew 7

955
01:20:50,450 --> 01:20:48,120
Mission will launch and arrive to keep

956
01:20:52,669 --> 01:20:50,460
the station's complement at seven people

957
01:20:55,490 --> 01:20:52,679
so we'll have another Full House of 11

958
01:20:57,530 --> 01:20:55,500
with two dragon Crews and one soyuz

959
01:21:00,350 --> 01:20:57,540
docked to the space station at the same

960
01:21:03,770 --> 01:21:01,790
well thanks again one more time for

961
01:21:05,390 --> 01:21:03,780
tuning in to today's coverage of the

962
01:21:07,250 --> 01:21:05,400
port relocation maneuver I hope you'll

963
01:21:09,950 --> 01:21:07,260

join us for next week's Rose Cosmos

964

01:21:12,470 --> 01:21:09,960

spacewalk uh the launch of the Axiom

965

01:21:14,870 --> 01:21:12,480

mission 2 private astronaut Mission the

966

01:21:16,669 --> 01:21:14,880

launch of crs-28 this summer and again

967

01:21:18,169 --> 01:21:16,679

in the fall as Jesse mentioned for all

968

01:21:19,910 --> 01:21:18,179

of our cruise six and cruise 7

969

01:21:22,310 --> 01:21:19,920

activities along with all of our great

970

01:21:25,490 --> 01:21:22,320

coverage along the way until then this

971

01:21:51,850 --> 01:21:27,980

thank you

972

01:21:57,050 --> 01:21:54,530

now this is a remarkable place to be

973

01:22:04,790 --> 01:21:57,060

because you have on one side over here

974

01:22:09,470 --> 01:22:07,130

and that is primitive the way it was