
PAO

1
00:00:07,110 --> 00:00:04,550
this week the space station the flight

2
00:00:09,270 --> 00:00:07,120
control team members are preparing for

3
00:00:11,430 --> 00:00:09,280
something that they've never done before

4
00:00:13,830 --> 00:00:11,440
and that will be the first evil ever

5
00:00:15,829 --> 00:00:13,840
grapple and birthing of a commercial

6
00:00:17,830 --> 00:00:15,839
cargo vehicle installed to the

7
00:00:20,470 --> 00:00:17,840
international space station for that

8
00:00:22,310 --> 00:00:20,480
operation all of the team members will

9
00:00:24,230 --> 00:00:22,320
have a certain special set of

10
00:00:26,150 --> 00:00:24,240
responsibilities that they have to live

11
00:00:28,710 --> 00:00:26,160
up to in order to get a successful

12
00:00:30,630 --> 00:00:28,720
completion of that task and we're going

13
00:00:32,950 --> 00:00:30,640

to learn about one of them in particular

14
00:00:35,190 --> 00:00:32,960
here this morning our guest is brandon

15
00:00:37,910 --> 00:00:35,200
monclip he is the lead operations

16
00:00:40,709 --> 00:00:37,920
support officer for the spacex demo

17
00:00:43,590 --> 00:00:40,719
mission brandon it says here that the

18
00:00:45,670 --> 00:00:43,600
oso is responsible for all station

19
00:00:47,270 --> 00:00:45,680
structures mechanical systems and

20
00:00:48,709 --> 00:00:47,280
systems maintenance

21
00:00:51,590 --> 00:00:48,719
seems like an awful lot of things to be

22
00:00:53,750 --> 00:00:51,600
responsible for um are you like the

23
00:00:56,389 --> 00:00:53,760
superintendent of a building responsible

24
00:00:59,110 --> 00:00:56,399
for making sure that things are working

25
00:01:01,189 --> 00:00:59,120
uh yeah pat that's actually um

26
00:01:02,229 --> 00:01:01,199
very close to what we do in addition to

27
00:01:04,310 --> 00:01:02,239
our

28
00:01:07,350 --> 00:01:04,320
structural mechanical systems

29
00:01:09,990 --> 00:01:07,360
that we're responsible for um

30
00:01:12,310 --> 00:01:10,000
operating and maintaining we also have

31
00:01:13,830 --> 00:01:12,320
to coordinate the maintenance of all the

32
00:01:15,270 --> 00:01:13,840
other systems that are being operated by

33
00:01:17,670 --> 00:01:15,280
the other flight control disciplines

34
00:01:20,870 --> 00:01:17,680
whether it be electrical systems or

35
00:01:23,350 --> 00:01:20,880
cdh systems or life support systems

36
00:01:24,950 --> 00:01:23,360
on a day-to-day basis how do you keep

37
00:01:26,710 --> 00:01:24,960
track of all of those different things

38
00:01:28,230 --> 00:01:26,720

what is it that you that you do to make

39
00:01:29,590 --> 00:01:28,240
sure that all those different systems

40
00:01:32,390 --> 00:01:29,600
are still working

41
00:01:35,510 --> 00:01:32,400
right so um as system failures occur

42
00:01:37,590 --> 00:01:35,520
each of the various disciplines will

43
00:01:38,870 --> 00:01:37,600
jump up and let us know hey you know

44
00:01:40,870 --> 00:01:38,880
we've got something broken that needs to

45
00:01:42,149 --> 00:01:40,880
get taken care of and then we prioritize

46
00:01:43,830 --> 00:01:42,159
that list working with the rest of the

47
00:01:45,510 --> 00:01:43,840
increment teams what's going on

48
00:01:47,190 --> 00:01:45,520
especially and having to prioritize that

49
00:01:49,030 --> 00:01:47,200
with payload operations and science

50
00:01:52,389 --> 00:01:49,040
stuff that's going on as well now i

51
00:01:54,710 --> 00:01:52,399
understand that your job is not just if

52
00:01:57,030 --> 00:01:54,720
you can say just the the operation of

53
00:01:58,870 --> 00:01:57,040
all those systems you also have a lot of

54
00:02:01,109 --> 00:01:58,880
responsibility when it comes to training

55
00:02:02,149 --> 00:02:01,119
crew members how to operate those

56
00:02:03,990 --> 00:02:02,159
systems

57
00:02:05,350 --> 00:02:04,000
absolutely so we spend a lot of time

58
00:02:06,789 --> 00:02:05,360
training the crew

59
00:02:07,830 --> 00:02:06,799
how to operate the mechanical systems

60
00:02:09,669 --> 00:02:07,840
whether it be the common berthing

61
00:02:11,750 --> 00:02:09,679
mechanisms one of our mechanical systems

62
00:02:13,510 --> 00:02:11,760
that we are responsible for operating

63
00:02:15,350 --> 00:02:13,520

and training the crew to operate but on

64
00:02:18,150 --> 00:02:15,360
the maintenance side as well we train

65
00:02:20,229 --> 00:02:18,160
the crew on what tools we have on orbit

66
00:02:21,430 --> 00:02:20,239
how to use those tools safely and

67
00:02:23,430 --> 00:02:21,440
properly so they can perform the

68
00:02:25,270 --> 00:02:23,440
maintenance activities on board let me

69
00:02:27,110 --> 00:02:25,280
get you to narrow it down specifically

70
00:02:29,350 --> 00:02:27,120
in the case of this vehicle that's

71
00:02:31,910 --> 00:02:29,360
approaching now the dragon spacecraft

72
00:02:34,309 --> 00:02:31,920
what are the oso's responsibilities in

73
00:02:36,790 --> 00:02:34,319
in terms of its systems and its uh

74
00:02:39,750 --> 00:02:36,800
interaction with the space station okay

75
00:02:41,910 --> 00:02:39,760
um yeah so for dragon as it comes up and

76
00:02:44,949 --> 00:02:41,920
approaches it'll be captured by the arm

77
00:02:47,030 --> 00:02:44,959
by the the ssr ms it'll be maneuvered to

78
00:02:49,670 --> 00:02:47,040
below the node 2 nader the harmony

79
00:02:51,830 --> 00:02:49,680
module the bottom side at that point the

80
00:02:53,910 --> 00:02:51,840
arm will bring it up to the bottom side

81
00:02:55,670 --> 00:02:53,920
of node 2 nader and we'll start the

82
00:02:57,670 --> 00:02:55,680
common berthing mechanism so we'll be

83
00:03:00,149 --> 00:02:57,680
monitoring that sending commands that

84
00:03:02,630 --> 00:03:00,159
will actually drive bolts to hold and

85
00:03:04,550 --> 00:03:02,640
capture the dragon to the vestibule

86
00:03:06,070 --> 00:03:04,560
at that point that vestibule area

87
00:03:07,509 --> 00:03:06,080
between the dragon and the node will be

88
00:03:09,830 --> 00:03:07,519

sealed off and we'll be able to

89
00:03:11,910 --> 00:03:09,840
pressurize the vestibule that's the

90
00:03:13,990 --> 00:03:11,920
mechanical side of

91
00:03:15,509 --> 00:03:14,000
the oso's operations at that point we

92
00:03:17,190 --> 00:03:15,519
get back into the kind of maintenance

93
00:03:19,190 --> 00:03:17,200
side hands-on side where the crew will

94
00:03:21,830 --> 00:03:19,200
pressurize the vestibule they'll go into

95
00:03:23,190 --> 00:03:21,840
the vestibule and make power jumpers

96
00:03:25,110 --> 00:03:23,200
data jumpers

97
00:03:27,030 --> 00:03:25,120
some air sampling lines and then we'll

98
00:03:28,949 --> 00:03:27,040
open up the dragon hatch and ingress

99
00:03:30,149 --> 00:03:28,959
their vehicle we'll get you to talk a

100
00:03:31,190 --> 00:03:30,159
little bit more about some of those

101
00:03:33,350 --> 00:03:31,200
different

102
00:03:35,270 --> 00:03:33,360
aspects of it the the birthing mess the

103
00:03:36,710 --> 00:03:35,280
common birthing mechanism man is as it's

104
00:03:39,990 --> 00:03:36,720
known and it's the same piece of

105
00:03:42,309 --> 00:03:40,000
hardware that other ships dock to uh and

106
00:03:44,309 --> 00:03:42,319
other modules have been attached to but

107
00:03:46,470 --> 00:03:44,319
it's not just a passive thing that

108
00:03:48,309 --> 00:03:46,480
something sticks into it has to be

109
00:03:49,830 --> 00:03:48,319
operated by the crew members right

110
00:03:51,190 --> 00:03:49,840
that's right we actually tag team

111
00:03:53,270 --> 00:03:51,200
between the crew and the ground

112
00:03:54,789 --> 00:03:53,280
operators on the ground so for the

113
00:03:56,869 --> 00:03:54,799

initial

114
00:03:59,030 --> 00:03:56,879
latching and bolting of the two halves

115
00:04:00,470 --> 00:03:59,040
of the cbm so the dragon has one side

116
00:04:02,229 --> 00:04:00,480
that's got a set of

117
00:04:04,309 --> 00:04:02,239
passive nuts on it and then we've got

118
00:04:06,390 --> 00:04:04,319
the actual bolts that we're driving on

119
00:04:08,309 --> 00:04:06,400
board the space station so the crew and

120
00:04:10,630 --> 00:04:08,319
the ground send commands that drive

121
00:04:12,550 --> 00:04:10,640
those bolts into the dragon vehicle and

122
00:04:14,789 --> 00:04:12,560
that's what pulls the two halves of the

123
00:04:17,030 --> 00:04:14,799
vehicles together and creates that seal

124
00:04:18,150 --> 00:04:17,040
around the ceiling surface so it's it's

125
00:04:20,150 --> 00:04:18,160
operated

126
00:04:22,150 --> 00:04:20,160
by the crew members and and the crew

127
00:04:23,670 --> 00:04:22,160
members who are doing that are working

128
00:04:25,830 --> 00:04:23,680
in coordination with the crew members

129
00:04:27,670 --> 00:04:25,840
who are controlling the arm that was

130
00:04:29,110 --> 00:04:27,680
carrying the dragon in right that's

131
00:04:31,030 --> 00:04:29,120
right there's a lot of coordination

132
00:04:33,749 --> 00:04:31,040
involved you've got a couple robotics

133
00:04:34,950 --> 00:04:33,759
operators on the crew as well as some of

134
00:04:37,350 --> 00:04:34,960
the crew pull double duty and do

135
00:04:39,030 --> 00:04:37,360
robotics as well as cbm operations and

136
00:04:40,870 --> 00:04:39,040
then both the

137
00:04:42,390 --> 00:04:40,880
robo and oso teams here on the ground

138
00:04:44,070 --> 00:04:42,400

are also coordinating commanding and

139
00:04:46,230 --> 00:04:44,080
monitoring all that telemetry all at the

140
00:04:47,749 --> 00:04:46,240
same time making sure that it's

141
00:04:49,510 --> 00:04:47,759
things are where they're supposed to be

142
00:04:51,670 --> 00:04:49,520
and that the systems are operating

143
00:04:53,590 --> 00:04:51,680
properly that's right you mentioned a

144
00:04:54,390 --> 00:04:53,600
moment ago that after

145
00:05:07,590 --> 00:04:54,400
the

146
00:05:10,310 --> 00:05:07,600
be done to prepare that space

147
00:05:12,230 --> 00:05:10,320
so um once the cbm operations are done

148
00:05:14,629 --> 00:05:12,240
we've mated the two vehicles together

149
00:05:16,950 --> 00:05:14,639
they're structurally held in place

150
00:05:19,670 --> 00:05:16,960
the area between the node two nader

151
00:05:22,390 --> 00:05:19,680
hatch and the dragon's hatch

152
00:05:24,710 --> 00:05:22,400
that is still at the vacuum of space so

153
00:05:26,950 --> 00:05:24,720
at that point we'll give the crew a go

154
00:05:29,670 --> 00:05:26,960
to introduce air into that vestibule

155
00:05:31,110 --> 00:05:29,680
volume that'll pressurize that area and

156
00:05:33,350 --> 00:05:31,120
actually allow the crew to be able to

157
00:05:34,230 --> 00:05:33,360
then physically open the node to nader

158
00:05:35,510 --> 00:05:34,240
hatch

159
00:05:37,830 --> 00:05:35,520
there's some hardware that has to be

160
00:05:40,469 --> 00:05:37,840
removed once they get the hatch open

161
00:05:41,990 --> 00:05:40,479
some mmod shielding

162
00:05:43,909 --> 00:05:42,000
and some of the cbm hardware physically

163
00:05:46,070 --> 00:05:43,919

gets removed at that point they've got

164
00:05:47,990 --> 00:05:46,080
access to start mating those power and

165
00:05:50,550 --> 00:05:48,000
data and air sampling jumpers in the

166
00:05:52,790 --> 00:05:50,560
vestibule that area between them that

167
00:05:55,189 --> 00:05:52,800
starts out at the vacuum then has to be

168
00:05:57,189 --> 00:05:55,199
pressurized and and the crew members

169
00:05:58,710 --> 00:05:57,199
have to monitor that whole operation

170
00:06:00,469 --> 00:05:58,720
with your back up from the ground too

171
00:06:02,550 --> 00:06:00,479
right that's correct

172
00:06:04,790 --> 00:06:02,560
is the way you handle

173
00:06:07,189 --> 00:06:04,800
uh birthing of a dragon and preparing to

174
00:06:09,830 --> 00:06:07,199
open its hatch is it different

175
00:06:11,990 --> 00:06:09,840
significantly different than what what

176
00:06:13,590 --> 00:06:12,000
you do for other similar vehicles other

177
00:06:15,909 --> 00:06:13,600
cargo vehicles

178
00:06:17,830 --> 00:06:15,919
um not too much different it's very

179
00:06:19,430 --> 00:06:17,840
similar to what we've done for htv1 and

180
00:06:21,909 --> 00:06:19,440
htv2

181
00:06:23,990 --> 00:06:21,919
i like it to having just different

182
00:06:25,510 --> 00:06:24,000
automobile makers you know they all have

183
00:06:26,870 --> 00:06:25,520
to come up

184
00:06:28,390 --> 00:06:26,880
the designs are very different but

185
00:06:31,110 --> 00:06:28,400
they're performing the same tasks they

186
00:06:32,550 --> 00:06:31,120
have to meet certain requirements and

187
00:06:34,230 --> 00:06:32,560
they have to be able to interface with

188
00:06:37,670 --> 00:06:34,240

the station hardware that's already on

189
00:06:39,189 --> 00:06:37,680
board so their passive cbm half are

190
00:06:40,629 --> 00:06:39,199
almost identical

191
00:06:43,510 --> 00:06:40,639
they still have to mate to the same

192
00:06:44,870 --> 00:06:43,520
power and data jumpers

193
00:06:46,629 --> 00:06:44,880
from there

194
00:06:49,029 --> 00:06:46,639
for the dragon hatch and the rest of

195
00:06:51,029 --> 00:06:49,039
their vehicle it's very much different

196
00:06:52,950 --> 00:06:51,039
design and something that the spacex

197
00:06:55,110 --> 00:06:52,960
teams come up with on their own yeah of

198
00:06:56,870 --> 00:06:55,120
course all of the designers knew what

199
00:06:58,629 --> 00:06:56,880
they were going to have to dock to so

200
00:07:00,790 --> 00:06:58,639
they designed to fit it but there are

201
00:07:03,189 --> 00:07:00,800
some some differences that you folks can

202
00:07:05,029 --> 00:07:03,199
see too oh absolutely like i said their

203
00:07:06,790 --> 00:07:05,039
their hatch mechanism the way it's

204
00:07:10,150 --> 00:07:06,800
designed the way it operates is very

205
00:07:12,150 --> 00:07:10,160
different um from a us os hatch so the

206
00:07:14,710 --> 00:07:12,160
crew gets specific training on how to

207
00:07:16,150 --> 00:07:14,720
operate that hatch prior to ingress

208
00:07:17,350 --> 00:07:16,160
so they know how to operate the hatch to

209
00:07:19,749 --> 00:07:17,360
get into the vehicle and also for

210
00:07:22,629 --> 00:07:19,759
emergency situations

211
00:07:25,670 --> 00:07:22,639
in an emergency situation or in a normal

212
00:07:27,670 --> 00:07:25,680
situation your team your osos have to

213
00:07:29,189 --> 00:07:27,680

work in coordination with the other

214
00:07:30,950 --> 00:07:29,199
teams

215
00:07:32,710 --> 00:07:30,960
if there's an issue they have to work

216
00:07:33,430 --> 00:07:32,720
with the discipline that's responsible

217
00:07:35,029 --> 00:07:33,440
for

218
00:07:37,749 --> 00:07:35,039
whatever system is having the issue

219
00:07:39,909 --> 00:07:37,759
right that's right we have for the space

220
00:07:42,469 --> 00:07:39,919
station systems we have

221
00:07:45,110 --> 00:07:42,479
many procedures already published for

222
00:07:47,430 --> 00:07:45,120
what to do in case a specific piece of

223
00:07:49,589 --> 00:07:47,440
hardware fails we know what steps need

224
00:07:51,990 --> 00:07:49,599
to be taken to access

225
00:07:53,270 --> 00:07:52,000
a certain box if it's breaks for

226
00:07:55,189 --> 00:07:53,280
instance and so we'll go pull that

227
00:07:57,029 --> 00:07:55,199
procedure up coordinate to get it on the

228
00:07:59,189 --> 00:07:57,039
timeline and get the crew

229
00:08:01,189 --> 00:07:59,199
into repairing that box

230
00:08:03,350 --> 00:08:01,199
anytime there's something that has to be

231
00:08:06,230 --> 00:08:03,360
fixed whether it's scheduled maintenance

232
00:08:08,710 --> 00:08:06,240
or unscheduled maintenance

233
00:08:10,469 --> 00:08:08,720
if you listen to space to ground talk

234
00:08:11,430 --> 00:08:10,479
long enough you hear people looking for

235
00:08:13,350 --> 00:08:11,440
tools

236
00:08:15,350 --> 00:08:13,360
are you guys the ones who are supposed

237
00:08:18,390 --> 00:08:15,360
to know where all the tools are stored

238
00:08:20,629 --> 00:08:18,400

well we definitely gave a designated

239
00:08:22,710 --> 00:08:20,639
home for all the tools there's multiple

240
00:08:24,469 --> 00:08:22,720
sets of tools on board and the crew even

241
00:08:26,550 --> 00:08:24,479
has their own personal tool kits where

242
00:08:27,909 --> 00:08:26,560
they keep where we've flown commonly

243
00:08:29,830 --> 00:08:27,919
used tools things that they use every

244
00:08:31,670 --> 00:08:29,840
single day like ratchets and and little

245
00:08:34,310 --> 00:08:31,680
uh hex heads that they keep in their

246
00:08:35,990 --> 00:08:34,320
pockets but yeah typically tools are

247
00:08:37,670 --> 00:08:36,000
kind of scattered we've got six crew

248
00:08:39,269 --> 00:08:37,680
members on board doing multiple

249
00:08:41,110 --> 00:08:39,279
activities at the same time sometimes

250
00:08:43,430 --> 00:08:41,120
they're using the same tools and so we

251
00:08:45,590 --> 00:08:43,440
have to work hard to deconflict uh tool

252
00:08:47,670 --> 00:08:45,600
conflicts to schedule the work so that

253
00:08:49,110 --> 00:08:47,680
there are sufficient tools for

254
00:08:50,389 --> 00:08:49,120
everything to get done that's right and

255
00:08:52,790 --> 00:08:50,399
it always gets interesting like you said

256
00:08:54,470 --> 00:08:52,800
if something comes up missing we're then

257
00:08:56,710 --> 00:08:54,480
on the hook to go find alternate tools

258
00:08:58,949 --> 00:08:56,720
that can also work that's entertaining

259
00:09:02,389 --> 00:08:58,959
so is when someone finds a long missing

260
00:09:03,750 --> 00:09:02,399
tool uh somebody says oh guess what

261
00:09:05,590 --> 00:09:03,760
yeah that always makes us happy when we

262
00:09:07,590 --> 00:09:05,600
find missing tools

263
00:09:09,190 --> 00:09:07,600

um

264
00:09:12,550 --> 00:09:09,200
the kind of work that you've described

265
00:09:13,670 --> 00:09:12,560
that you folks are doing over there

266
00:09:18,150 --> 00:09:13,680
it could

267
00:09:20,070 --> 00:09:18,160
takes a wide variety of backgrounds if i

268
00:09:22,389 --> 00:09:20,080
could use you for an example tell me

269
00:09:23,910 --> 00:09:22,399
about your own educational professional

270
00:09:25,910 --> 00:09:23,920
background what does it take for someone

271
00:09:28,230 --> 00:09:25,920
to be an oso

272
00:09:30,150 --> 00:09:28,240
sure well as an example um

273
00:09:31,910 --> 00:09:30,160
our since oso is responsible for

274
00:09:34,230 --> 00:09:31,920
maintaining so many different types of

275
00:09:36,150 --> 00:09:34,240
system and a wide variety of systems

276
00:09:38,070 --> 00:09:36,160
all of the osos basically have some sort

277
00:09:39,910 --> 00:09:38,080
of a technical degree or background

278
00:09:40,630 --> 00:09:39,920
whether most of us are engineering got

279
00:09:42,710 --> 00:09:40,640
some

280
00:09:44,870 --> 00:09:42,720
science and math majors as well

281
00:09:46,710 --> 00:09:44,880
but beyond that everybody has varying

282
00:09:48,310 --> 00:09:46,720
interests and varying experiences in

283
00:09:49,750 --> 00:09:48,320
life

284
00:09:51,509 --> 00:09:49,760
and that allows us to have that

285
00:09:52,710 --> 00:09:51,519
well-rounded team

286
00:09:55,670 --> 00:09:52,720
me personally i have a degree in

287
00:09:57,910 --> 00:09:55,680
mechanical engineering

288
00:09:59,910 --> 00:09:57,920

on the training side that allowed me to

289
00:10:01,350 --> 00:09:59,920
develop my training skills i worked a

290
00:10:02,790 --> 00:10:01,360
few summers for the boy scouts teaching

291
00:10:04,069 --> 00:10:02,800
fly tying and fly fishing through

292
00:10:06,630 --> 00:10:04,079
college

293
00:10:08,710 --> 00:10:06,640
and that that helped me with my

294
00:10:10,470 --> 00:10:08,720
ability to teach lessons and to train

295
00:10:13,350 --> 00:10:10,480
those skills

296
00:10:15,990 --> 00:10:13,360
i also grew up in a machine shop and my

297
00:10:18,230 --> 00:10:16,000
dad had a machining company that built

298
00:10:19,430 --> 00:10:18,240
manufacturing equipment so i have a good

299
00:10:21,750 --> 00:10:19,440
understanding of what it takes to

300
00:10:23,030 --> 00:10:21,760
manufacture things um how things are

301
00:10:24,790 --> 00:10:23,040
assembled how they go together and that

302
00:10:26,470 --> 00:10:24,800
definitely helps with a very complex

303
00:10:29,269 --> 00:10:26,480
space station did you come to work at

304
00:10:31,750 --> 00:10:29,279
nasa straight out of college yeah i did

305
00:10:32,389 --> 00:10:31,760
in into this discipline or did you have

306
00:10:34,870 --> 00:10:32,399
to

307
00:10:37,829 --> 00:10:34,880
do you start somewhere else and and

308
00:10:39,590 --> 00:10:37,839
find someplace to gravitate toward

309
00:10:42,069 --> 00:10:39,600
um no yeah actually came straight out of

310
00:10:43,829 --> 00:10:42,079
school straight into oso and been here

311
00:10:45,509 --> 00:10:43,839
for eight years

312
00:10:47,990 --> 00:10:45,519
now you have something brand new on the

313
00:10:50,310 --> 00:10:48,000

way i got a feeling that you folks are

314
00:10:51,670 --> 00:10:50,320
kind of jazzed about that yeah it's it's

315
00:10:54,150 --> 00:10:51,680
a lot of fun seeing all the new vehicles

316
00:10:56,470 --> 00:10:54,160
come up i was able to work htv1 and htv2

317
00:10:58,389 --> 00:10:56,480
as well i was a lead for htv2 and then

318
00:11:00,310 --> 00:10:58,399
jumped over to spacex and helped out

319
00:11:01,750 --> 00:11:00,320
with the orbital team as well brandon

320
00:11:03,829 --> 00:11:01,760
thanks very much for taking a few

321
00:11:06,069 --> 00:11:03,839
minutes to help us understand better uh

322
00:11:07,590 --> 00:11:06,079
this aspect of the this flight control

323
00:11:09,829 --> 00:11:07,600
team appreciate it happy to be here

324
00:11:12,230 --> 00:11:09,839
thanks brandon moncla is the lead

325
00:11:14,949 --> 00:11:12,240
operation support officer for the

326
00:11:17,590 --> 00:11:14,959
spacex flight now the inaugural flight

327
00:11:19,910 --> 00:11:17,600
of the dragon is part of a nasa plan to

328
00:11:22,069 --> 00:11:19,920
reduce the expense of supplying the

329
00:11:24,710 --> 00:11:22,079
international space station in order to

330
00:11:26,630 --> 00:11:24,720
free up other government resources to