
NASA

1
00:05:24,070 --> 00:05:36,830
[Music]

2
00:05:36,840 --> 00:05:40,400
rogers

3
00:05:57,830 --> 00:05:50,830
[Music]

4
00:05:57,840 --> 00:06:02,029
discovery clears the tower

5
00:06:02,039 --> 00:06:15,220
discovery rogers

6
00:06:15,230 --> 00:06:27,270
[Music]

7
00:06:31,189 --> 00:06:29,189
well hello everybody and welcome from

8
00:06:31,830 --> 00:06:31,199
the kennedy space center in florida i'd

9
00:06:34,309 --> 00:06:31,840
like to

10
00:06:36,390 --> 00:06:34,319
welcome everyone to the traditional

11
00:06:37,990 --> 00:06:36,400
pre-launch news conference

12
00:06:40,870 --> 00:06:38,000
following today's launch readiness

13
00:06:41,510 --> 00:06:40,880

review ahead of nasa and spacex's crew

14
00:06:43,990 --> 00:06:41,520
one

15
00:06:46,150 --> 00:06:44,000
falcon 9 and crew dragon flight to the

16
00:06:48,790 --> 00:06:46,160
international space station

17
00:06:49,589 --> 00:06:48,800
here to provide all the details or uh

18
00:06:51,350 --> 00:06:49,599
folks that

19
00:06:52,790 --> 00:06:51,360
were part of the review today and also

20
00:06:54,550 --> 00:06:52,800
have been part of a lot of the

21
00:06:57,110 --> 00:06:54,560
preparations that have led

22
00:06:59,350 --> 00:06:57,120
up to this moment it's a very exciting

23
00:07:01,110 --> 00:06:59,360
day for everybody within nasa and spacex

24
00:07:02,309 --> 00:07:01,120
and hopefully all of you that are tuning

25
00:07:03,990 --> 00:07:02,319
in today

26
00:07:05,430 --> 00:07:04,000
let me introduce the panel and then i'll

27
00:07:07,110 --> 00:07:05,440
let each one of them

28
00:07:09,749 --> 00:07:07,120
give you some words before we take

29
00:07:11,749 --> 00:07:09,759
questions steve stitch he's the nasa

30
00:07:13,749 --> 00:07:11,759
manager for the commercial crew program

31
00:07:16,550 --> 00:07:13,759
here at kennedy

32
00:07:18,550 --> 00:07:16,560
also joel montelbano the nasa manager of

33
00:07:21,270 --> 00:07:18,560
the international space station program

34
00:07:25,350 --> 00:07:21,280
at johnson space center in houston

35
00:07:28,790 --> 00:07:25,360
norm knight he's the deputy manager of

36
00:07:31,270 --> 00:07:28,800
flight operations directorate at johnson

37
00:07:32,870 --> 00:07:31,280
also joining us is uh benji reed who's

38
00:07:35,670 --> 00:07:32,880

the senior director

39
00:07:37,589 --> 00:07:35,680
human space flight programs at spacex

40
00:07:40,550 --> 00:07:37,599
great glad to have him with us

41
00:07:41,430 --> 00:07:40,560
also kurt costello who is the nasa iss

42
00:07:44,710 --> 00:07:41,440
program

43
00:07:47,749 --> 00:07:44,720
chief scientist at johnson space center

44
00:07:49,589 --> 00:07:47,759
and last but not least is arlena moses

45
00:07:52,629 --> 00:07:49,599
she's the launch weather officer for the

46
00:07:54,230 --> 00:07:52,639
u.s air force 45th weather squadron

47
00:07:56,230 --> 00:07:54,240
so i know everybody's looking forward to

48
00:07:57,909 --> 00:07:56,240
hearing from harlena as well

49
00:07:59,430 --> 00:07:57,919
with that i'll turn it over to steve and

50
00:08:01,749 --> 00:07:59,440
let him take it from there

51
00:08:03,510 --> 00:08:01,759
okay thank you kyle uh it's great to be

52
00:08:05,270 --> 00:08:03,520
here uh

53
00:08:07,110 --> 00:08:05,280
uh following the launch readiness review

54
00:08:09,110 --> 00:08:07,120
today you know it's been a busy

55
00:08:10,469 --> 00:08:09,120
a few days since we last talked we

56
00:08:13,110 --> 00:08:10,479
talked to you after the

57
00:08:14,070 --> 00:08:13,120
flight renders review on tuesday since

58
00:08:17,189 --> 00:08:14,080
that time

59
00:08:18,790 --> 00:08:17,199
we've put the falcon 9 vehicle through a

60
00:08:20,230 --> 00:08:18,800
static fire which is an important test

61
00:08:21,350 --> 00:08:20,240
for us to check out the rocket to make

62
00:08:23,189 --> 00:08:21,360
sure that the

63
00:08:25,029 --> 00:08:23,199

nine engines on f9 and all the systems

64
00:08:27,189 --> 00:08:25,039
on the rocket were functioning

65
00:08:28,869 --> 00:08:27,199
as expected we reviewed all that data

66
00:08:29,990 --> 00:08:28,879
over the last few days and the rocket

67
00:08:31,589 --> 00:08:30,000
looks really good

68
00:08:34,070 --> 00:08:31,599
it was important for us to also do some

69
00:08:35,909 --> 00:08:34,080
inspections after that static fire

70
00:08:37,190 --> 00:08:35,919
we've swapped out a couple of engines on

71
00:08:38,310 --> 00:08:37,200
this vehicle and we did those

72
00:08:40,550 --> 00:08:38,320
inspections and

73
00:08:42,149 --> 00:08:40,560
and everything looks really good we also

74
00:08:43,750 --> 00:08:42,159
did a uh a dry dress

75
00:08:45,670 --> 00:08:43,760
uh practice with the crew the crew

76
00:08:47,509 --> 00:08:45,680
suited up got in their spacesuits

77
00:08:50,070 --> 00:08:47,519
uh went out to the launch pad and and

78
00:08:51,670 --> 00:08:50,080
got uh installed into the vehicle

79
00:08:53,190 --> 00:08:51,680
it's the first time we put four people

80
00:08:54,870 --> 00:08:53,200
in dragon so that was an important test

81
00:08:57,590 --> 00:08:54,880
for us and that test went really really

82
00:09:01,990 --> 00:08:59,430
overall in terms of looking at the

83
00:09:04,790 --> 00:09:02,000
weather and also looking at a

84
00:09:06,389 --> 00:09:04,800
recovery of the booster for this flight

85
00:09:08,630 --> 00:09:06,399
we have adjusted the launch date we were

86
00:09:10,790 --> 00:09:08,640
targeting a saturday launch

87
00:09:12,949 --> 00:09:10,800
we've adjusted the launch date 24 hours

88
00:09:13,670 --> 00:09:12,959

later and today we're targeting a sunday

89
00:09:17,190 --> 00:09:13,680
launch

90
00:09:17,750 --> 00:09:17,200
at 7 27 pm eastern time that'll put

91
00:09:21,030 --> 00:09:17,760
docking

92
00:09:22,630 --> 00:09:21,040
on monday at about 11 pm eastern time

93
00:09:24,949 --> 00:09:22,640
and we did that we looked carefully at

94
00:09:27,990 --> 00:09:24,959
the weather uh and the onshore flow

95
00:09:30,070 --> 00:09:28,000
looked really not so good for saturday

96
00:09:31,670 --> 00:09:30,080
also we needed to get the the drone

97
00:09:32,630 --> 00:09:31,680
recovery ship in place to recover the

98
00:09:39,509 --> 00:09:32,640
booster

99
00:09:41,190 --> 00:09:39,519
we're gonna reuse the first stage uh

100
00:09:43,590 --> 00:09:41,200
that we're flying on crew one

101
00:09:44,470 --> 00:09:43,600
for the crew ii mission uh coming up in

102
00:09:45,829 --> 00:09:44,480
the springtime

103
00:09:47,590 --> 00:09:45,839
with the launch day that crew 2's got a

104
00:09:49,030 --> 00:09:47,600
launch date of march 30th so it's

105
00:09:51,590 --> 00:09:49,040
important to recover that booster and so

106
00:09:52,790 --> 00:09:51,600
we need to get the drone ship in place

107
00:09:54,710 --> 00:09:52,800
overall you know it's going to be an

108
00:09:56,470 --> 00:09:54,720
exciting flight i will remind you that

109
00:09:59,190 --> 00:09:56,480
crew one is going to be the longest

110
00:09:59,670 --> 00:09:59,200
u.s space flight ever exceeding what we

111
00:10:03,190 --> 00:09:59,680
had

112
00:10:05,509 --> 00:10:03,200
on the final skylab mission skylab 3.

113
00:10:06,870 --> 00:10:05,519

it's the first mission to have a four

114
00:10:08,550 --> 00:10:06,880
crew in the capsule

115
00:10:10,470 --> 00:10:08,560
which we're excited about to enhance the

116
00:10:12,870 --> 00:10:10,480
science on the space station

117
00:10:13,990 --> 00:10:12,880
and uh as well it's the first our first

118
00:10:16,550 --> 00:10:14,000
uh faa

119
00:10:18,470 --> 00:10:16,560
flight fa licensed launch as well as

120
00:10:19,829 --> 00:10:18,480
we're moving to this next step

121
00:10:21,350 --> 00:10:19,839
so we're excited to go fly this

122
00:10:21,910 --> 00:10:21,360
increment mission for the space station

123
00:10:23,430 --> 00:10:21,920
program

124
00:10:25,350 --> 00:10:23,440
uh we'll continue to watch the weather

125
00:10:26,870 --> 00:10:25,360
and the vehicles and

126
00:10:28,790 --> 00:10:26,880
we're looking forward to a good launch

127
00:10:30,630 --> 00:10:28,800
on on sunday and i'll turn it over to

128
00:10:33,110 --> 00:10:30,640
joel montavano

129
00:10:34,230 --> 00:10:33,120
thank you steve welcome again to today's

130
00:10:35,910 --> 00:10:34,240
press brief

131
00:10:37,750 --> 00:10:35,920
you know these past few days we've had a

132
00:10:38,949 --> 00:10:37,760
number of reviews and operations as

133
00:10:40,949 --> 00:10:38,959
steve's mentioned

134
00:10:43,190 --> 00:10:40,959
and today as we concluded the launch

135
00:10:45,110 --> 00:10:43,200
readiness review i can tell you that the

136
00:10:46,870 --> 00:10:45,120
international space station partnership

137
00:10:49,190 --> 00:10:46,880
is ready for this mission

138
00:10:50,069 --> 00:10:49,200

and as steve said looking at a launch

139
00:10:53,829 --> 00:10:50,079
time of 7

140
00:10:56,310 --> 00:10:53,839
27 eastern time 7 27 pm eastern time

141
00:10:57,910 --> 00:10:56,320
on sunday giving us a docking the late

142
00:11:01,670 --> 00:10:57,920
uh monday evening

143
00:11:03,590 --> 00:11:01,680
approximately 11 pm eastern time

144
00:11:05,110 --> 00:11:03,600
shortly after docking we'll do the

145
00:11:06,710 --> 00:11:05,120
standard leak checks

146
00:11:08,230 --> 00:11:06,720
and then we'll have a welcome ceremony

147
00:11:08,949 --> 00:11:08,240
on board that'll be about two and a half

148
00:11:11,750 --> 00:11:08,959
hours

149
00:11:13,509 --> 00:11:11,760
after docking this week we've been doing

150
00:11:16,230 --> 00:11:13,519
a lot of discussion with

151
00:11:17,750 --> 00:11:16,240
kate and sergey's on orbit today and

152
00:11:19,590 --> 00:11:17,760
keeping them up to speed with the launch

153
00:11:21,110 --> 00:11:19,600
preparations they're excited

154
00:11:22,870 --> 00:11:21,120
and they're ready to have some new crew

155
00:11:24,949 --> 00:11:22,880
members on board

156
00:11:27,190 --> 00:11:24,959
this view this vehicle is also bringing

157
00:11:28,710 --> 00:11:27,200
approximately 240 kilograms of

158
00:11:30,310 --> 00:11:28,720
pressurized cargo

159
00:11:32,790 --> 00:11:30,320
again to enhance what we're doing on

160
00:11:34,550 --> 00:11:32,800
board the international space station

161
00:11:36,470 --> 00:11:34,560
as steve said with these four crew

162
00:11:38,710 --> 00:11:36,480
members adding to the three crew members

163
00:11:40,710 --> 00:11:38,720

on board we'll have a total of seven

164
00:11:41,750 --> 00:11:40,720
iss crew members for a sustained

165
00:11:43,430 --> 00:11:41,760
increment

166
00:11:44,949 --> 00:11:43,440
this vehicle will stay up there for a

167
00:11:47,590 --> 00:11:44,959
long duration increment

168
00:11:48,949 --> 00:11:47,600
and return in april of next year so

169
00:11:50,629 --> 00:11:48,959
we're looking forward to having the

170
00:11:52,550 --> 00:11:50,639
extra capability on board

171
00:11:53,750 --> 00:11:52,560
which will allow us to increase the

172
00:11:55,990 --> 00:11:53,760
science we do

173
00:11:58,310 --> 00:11:56,000
increase the exploration development we

174
00:12:01,509 --> 00:11:58,320
do in order for the artemis program

175
00:12:03,509 --> 00:12:01,519
and future programs we're also

176
00:12:05,430 --> 00:12:03,519
this year celebrating 20 years of

177
00:12:07,509 --> 00:12:05,440
continuous human presence onboard the

178
00:12:09,430 --> 00:12:07,519
international space station

179
00:12:11,590 --> 00:12:09,440
and during those 20 years we've set the

180
00:12:13,509 --> 00:12:11,600
standard for international cooperation

181
00:12:15,990 --> 00:12:13,519
and international operations

182
00:12:17,030 --> 00:12:16,000
but we keep learning we learn every day

183
00:12:20,310 --> 00:12:17,040
and you know

184
00:12:22,629 --> 00:12:20,320
nasa with american industry

185
00:12:23,990 --> 00:12:22,639
has developed these commercial vehicles

186
00:12:25,910 --> 00:12:24,000
that allow us to

187
00:12:27,430 --> 00:12:25,920
bring more people to low earth orbit

188
00:12:28,389 --> 00:12:27,440

bring more people the international

189
00:12:30,310 --> 00:12:28,399
space station

190
00:12:32,150 --> 00:12:30,320
allow us to do more science in low earth

191
00:12:33,430 --> 00:12:32,160
orbit and allow more commercial

192
00:12:34,790 --> 00:12:33,440
opportunities

193
00:12:36,870 --> 00:12:34,800
so with that a huge thanks to the

194
00:12:39,030 --> 00:12:36,880
commercial crew program huge thanks to

195
00:12:39,829 --> 00:12:39,040
spacex for getting us to where we are

196
00:12:41,190 --> 00:12:39,839
today

197
00:12:43,110 --> 00:12:41,200
the international space station

198
00:12:44,790 --> 00:12:43,120
partnership is glad to be here we're

199
00:12:47,030 --> 00:12:44,800
excited for launch on sunday

200
00:12:49,350 --> 00:12:47,040
we're looking forward to uh monday's

201
00:12:51,269 --> 00:12:49,360
docking and a long duration increment

202
00:12:53,509 --> 00:12:51,279
so with that i'll turn it over to norm

203
00:12:58,870 --> 00:12:53,519
thank you

204
00:13:01,670 --> 00:12:58,880
stated the launch readiness review today

205
00:13:03,350 --> 00:13:01,680
went very well we echoed that and you

206
00:13:05,829 --> 00:13:03,360
know stepping back

207
00:13:07,350 --> 00:13:05,839
and kind of reflecting on demo two in

208
00:13:08,949 --> 00:13:07,360
the development cycle now to the

209
00:13:10,310 --> 00:13:08,959
operational cycle just

210
00:13:12,470 --> 00:13:10,320
with you know kind of the journey

211
00:13:14,150 --> 00:13:12,480
leading up to this in the lr

212
00:13:15,990 --> 00:13:14,160
and it was really evident that there was

213
00:13:18,870 --> 00:13:16,000

great improvement on

214
00:13:20,069 --> 00:13:18,880
um you know the closed-out work the less

215
00:13:22,790 --> 00:13:20,079
open work there was

216
00:13:25,269 --> 00:13:22,800
and the overall readiness level uh from

217
00:13:27,829 --> 00:13:25,279
the team for this vehicle so it was uh

218
00:13:29,269 --> 00:13:27,839
it was very encouraging uh an absolute

219
00:13:31,750 --> 00:13:29,279
focus on crew safety

220
00:13:33,590 --> 00:13:31,760
and vehicle safety which both the nasa

221
00:13:34,470 --> 00:13:33,600
and spacex teams have done a great job

222
00:13:38,230 --> 00:13:34,480
with

223
00:13:42,150 --> 00:13:38,240
was on the heels of

224
00:13:43,670 --> 00:13:42,160
dry dress yesterday that steve mentioned

225
00:13:45,430 --> 00:13:43,680
that went very well that was the first

226
00:13:48,230 --> 00:13:45,440
opportunity really to to

227
00:13:49,509 --> 00:13:48,240
let the crew suit up and really try out

228
00:13:51,430 --> 00:13:49,519
their vehicle

229
00:13:53,189 --> 00:13:51,440
for the first time before launch day to

230
00:13:55,829 --> 00:13:53,199
make sure that you know the

231
00:13:57,350 --> 00:13:55,839
the fit was right and there were no uh

232
00:13:57,829 --> 00:13:57,360
last minute type things that needed to

233
00:13:59,590 --> 00:13:57,839
be

234
00:14:01,189 --> 00:13:59,600
uh tweaked up prior to launch and again

235
00:14:02,790 --> 00:14:01,199
that went uh very well we're very

236
00:14:05,030 --> 00:14:02,800
excited about that

237
00:14:05,910 --> 00:14:05,040
had an opportunity to uh to meet with

238
00:14:07,110 --> 00:14:05,920

the crew

239
00:14:08,870 --> 00:14:07,120
this morning and talk with them a little

240
00:14:10,069 --> 00:14:08,880
bit about their upcoming launch and i

241
00:14:12,790 --> 00:14:10,079
tell you what they were

242
00:14:13,910 --> 00:14:12,800
absolutely excited and you could just

243
00:14:15,670 --> 00:14:13,920
feel the radiant

244
00:14:17,110 --> 00:14:15,680
excitement coming off of them in fact

245
00:14:20,629 --> 00:14:17,120
when i walked out

246
00:14:22,310 --> 00:14:20,639
of that briefing i was i was excited

247
00:14:23,430 --> 00:14:22,320
myself i mean you could just feel the

248
00:14:25,829 --> 00:14:23,440
energy

249
00:14:26,470 --> 00:14:25,839
from the crew and we see that throughout

250
00:14:28,550 --> 00:14:26,480
the team

251
00:14:29,509 --> 00:14:28,560
which is great because it means we're

252
00:14:31,670 --> 00:14:29,519
real close

253
00:14:32,870 --> 00:14:31,680
and we're ready to go which is uh very

254
00:14:35,910 --> 00:14:32,880
important

255
00:14:37,350 --> 00:14:35,920
um you know the the message that uh that

256
00:14:39,670 --> 00:14:37,360
they wanted to convey is

257
00:14:42,389 --> 00:14:39,680
is resilience and to echo once again

258
00:14:45,430 --> 00:14:42,399
that you know the journey to get here

259
00:14:47,189 --> 00:14:45,440
is one of resilience and it was a hard

260
00:14:49,189 --> 00:14:47,199
journey with a lot of stuff going on and

261
00:14:51,189 --> 00:14:49,199
covet affecting the teams but

262
00:14:52,310 --> 00:14:51,199
it was that resilience and determination

263
00:14:54,230 --> 00:14:52,320

by a lot of folks

264
00:14:55,509 --> 00:14:54,240
that have led up to this point we'll

265
00:14:59,509 --> 00:14:55,519
safely get them

266
00:15:01,110 --> 00:14:59,519
docked

267
00:15:03,509 --> 00:15:01,120
performing six months of science and

268
00:15:04,230 --> 00:15:03,519
returning back to earth safely as well

269
00:15:06,550 --> 00:15:04,240
so

270
00:15:07,990 --> 00:15:06,560
again a lot of folks that that were

271
00:15:11,030 --> 00:15:08,000
involved with that

272
00:15:11,590 --> 00:15:11,040
and just an appreciation for that hard

273
00:15:14,949 --> 00:15:11,600
work

274
00:15:17,590 --> 00:15:14,959
that um that has got us to this point so

275
00:15:18,629 --> 00:15:17,600
it was very good so with that uh i will

276
00:15:21,110 --> 00:15:18,639
turn it over to

277
00:15:23,590 --> 00:15:21,120
benji and look forward to questions

278
00:15:26,790 --> 00:15:26,230
great thank you very much norm um first

279
00:15:29,110 --> 00:15:26,800
of all i just

280
00:15:29,990 --> 00:15:29,120
i it's sitting here and i'm i'm excited

281
00:15:32,870 --> 00:15:30,000
again

282
00:15:33,590 --> 00:15:32,880
to be here um to think that this is our

283
00:15:35,269 --> 00:15:33,600
third time

284
00:15:36,949 --> 00:15:35,279
that we've had the opportunity to come

285
00:15:37,590 --> 00:15:36,959
and launch here from kennedy space

286
00:15:40,870 --> 00:15:37,600
center

287
00:15:43,350 --> 00:15:40,880
uh we did our in-flight abort test back

288
00:15:44,069 --> 00:15:43,360

at the beginning of this year we did our

289
00:15:46,150 --> 00:15:44,079
our demo

290
00:15:47,990 --> 00:15:46,160
two mission with bob and doug and now

291
00:15:48,629 --> 00:15:48,000
we're coming up here on crew one our

292
00:15:51,509 --> 00:15:48,639
first

293
00:15:52,550 --> 00:15:51,519
operational mission to start providing

294
00:15:54,870 --> 00:15:52,560
crude services

295
00:15:55,670 --> 00:15:54,880
to the station to keep joel's program

296
00:15:57,590 --> 00:15:55,680
running

297
00:15:59,269 --> 00:15:57,600
um you know at six month intervals it's

298
00:16:00,550 --> 00:15:59,279
just incredible and if you watch the

299
00:16:02,310 --> 00:16:00,560
beginning here just before we started

300
00:16:03,350 --> 00:16:02,320
this press briefing you saw the montage

301
00:16:05,110 --> 00:16:03,360
they had of

302
00:16:07,030 --> 00:16:05,120
all the different past crew missions and

303
00:16:07,990 --> 00:16:07,040
to hear joel talk about 20 years in

304
00:16:11,030 --> 00:16:08,000
space it's just

305
00:16:13,030 --> 00:16:11,040
it's so cool and it's an honor to get to

306
00:16:16,629 --> 00:16:13,040
be here i'm i'm certainly stoked

307
00:16:17,749 --> 00:16:16,639
um on behalf of in all the spacex

308
00:16:19,829 --> 00:16:17,759
employees

309
00:16:21,269 --> 00:16:19,839
our vendors our partners all of our

310
00:16:23,030 --> 00:16:21,279
families

311
00:16:24,710 --> 00:16:23,040
you know i want to take this opportunity

312
00:16:26,470 --> 00:16:24,720
to say thank you

313
00:16:28,470 --> 00:16:26,480

to nasa and to all of our partners to

314
00:16:31,670 --> 00:16:28,480
let us be a part of this and to

315
00:16:32,550 --> 00:16:31,680
help carry the sacred really the sacred

316
00:16:34,829 --> 00:16:32,560
um

317
00:16:36,150 --> 00:16:34,839
honor and responsibility on our

318
00:16:38,870 --> 00:16:36,160
shoulders

319
00:16:40,230 --> 00:16:38,880
this is the culmination of years of work

320
00:16:43,189 --> 00:16:40,240
and effort

321
00:16:43,910 --> 00:16:43,199
from a lot of people and a lot of time

322
00:16:47,269 --> 00:16:43,920
and

323
00:16:50,470 --> 00:16:47,279
call as one of the safest

324
00:16:51,670 --> 00:16:50,480
launch and spacecraft launch vehicles

325
00:16:53,749 --> 00:16:51,680
and spacecraft ever

326
00:16:54,710 --> 00:16:53,759
and it's it's an honor to to be a part

327
00:16:56,790 --> 00:16:54,720
of that

328
00:16:58,710 --> 00:16:56,800
we uh we culminated our efforts in that

329
00:17:00,310 --> 00:16:58,720
with our static fire on wednesday

330
00:17:01,910 --> 00:17:00,320
steve mentioned that just a little bit

331
00:17:18,549 --> 00:17:01,920
um and in fact i think we have a video

332
00:17:21,750 --> 00:17:20,309
great that was a full seven second

333
00:17:23,429 --> 00:17:21,760
duration static fire

334
00:17:24,949 --> 00:17:23,439
um the teams looked at all the data

335
00:17:26,789 --> 00:17:24,959
coming out of that static fire actually

336
00:17:29,270 --> 00:17:26,799
they finished that up those reviews we

337
00:17:31,590 --> 00:17:29,280
did joint reviews with the nasa teams

338
00:17:32,870 --> 00:17:31,600

and our teams and uh looked great we

339
00:17:34,470 --> 00:17:32,880
assessed everything that came from the

340
00:17:35,750 --> 00:17:34,480
vehicle and we feel very good about it

341
00:17:36,549 --> 00:17:35,760
as you know we did some work on the

342
00:17:38,310 --> 00:17:36,559
engines

343
00:17:40,230 --> 00:17:38,320
um and other aspects of the vehicle as

344
00:17:40,950 --> 00:17:40,240
we came into this getting ready for this

345
00:17:43,110 --> 00:17:40,960
launch

346
00:17:44,870 --> 00:17:43,120
and that static fire is very key to

347
00:17:46,230 --> 00:17:44,880
ensuring um that we're ready to go and

348
00:17:47,990 --> 00:17:46,240
like i said that seven those seven

349
00:17:49,669 --> 00:17:48,000
seconds looked awesome

350
00:17:52,789 --> 00:17:49,679
the next thing i want to show you is a

351
00:17:54,710 --> 00:17:52,799
picture that we have from dry dress

352
00:17:56,789 --> 00:17:54,720
and dry dress is a dress rehearsal that

353
00:17:58,390 --> 00:17:56,799
we do with the crew

354
00:17:59,830 --> 00:17:58,400
and they do the whole thing where they

355
00:18:01,510 --> 00:17:59,840
get suited up

356
00:18:03,669 --> 00:18:01,520
at the building what they call the onc

357
00:18:05,270 --> 00:18:03,679
building here on kennedy space center

358
00:18:07,190 --> 00:18:05,280
they get suited up they come across in

359
00:18:08,630 --> 00:18:07,200
their teslas and they go up the tower

360
00:18:10,230 --> 00:18:08,640
and get all the way into dragon

361
00:18:11,830 --> 00:18:10,240
and it's a very important process that

362
00:18:13,430 --> 00:18:11,840
we do where we walk

363
00:18:15,190 --> 00:18:13,440

walk through all of that with our teams

364
00:18:16,710 --> 00:18:15,200
the ground teams working with the crew

365
00:18:18,310 --> 00:18:16,720
the crew themselves and make sure

366
00:18:20,310 --> 00:18:18,320
everything checks out

367
00:18:22,310 --> 00:18:20,320
when i look at this picture again i get

368
00:18:23,669 --> 00:18:22,320
very excited to think about this next

369
00:18:25,190 --> 00:18:23,679
step

370
00:18:26,870 --> 00:18:25,200
on this big journey that we have ahead

371
00:18:30,390 --> 00:18:26,880
of us we've got four

372
00:18:31,909 --> 00:18:30,400
astronauts who will be going up we have

373
00:18:34,390 --> 00:18:31,919
one person who's never been to space

374
00:18:36,230 --> 00:18:34,400
victor who's very excited

375
00:18:37,510 --> 00:18:36,240
we have suici who's our first

376
00:18:39,669 --> 00:18:37,520
international partner

377
00:18:42,630 --> 00:18:39,679
who will be joining us which is really

378
00:18:45,669 --> 00:18:42,640
really cool

379
00:18:46,150 --> 00:18:45,679
all right let's talk a little bit about

380
00:18:47,909 --> 00:18:46,160
uh

381
00:18:50,470 --> 00:18:47,919
what's going to happen on launch day

382
00:18:51,669 --> 00:18:50,480
itself as i talked about dry dress was a

383
00:18:54,549 --> 00:18:51,679
practice for that

384
00:18:55,990 --> 00:18:54,559
so about four hours before launch day

385
00:18:57,110 --> 00:18:56,000
the crew will be in that onc

386
00:18:59,510 --> 00:18:57,120
building they'll be in their area

387
00:18:59,990 --> 00:18:59,520
getting suited up our suit techs will be

388
00:19:01,909 --> 00:19:00,000

getting

389
00:19:03,830 --> 00:19:01,919
helping them get ready we'll be doing

390
00:19:05,190 --> 00:19:03,840
various leak checks and other fit checks

391
00:19:07,270 --> 00:19:05,200
as we go through that

392
00:19:09,909 --> 00:19:07,280
um and then the the astronauts will come

393
00:19:11,909 --> 00:19:09,919
out at about three hours before launch

394
00:19:13,430 --> 00:19:11,919
get into the tesla's wave goodbye to

395
00:19:15,590 --> 00:19:13,440
their families

396
00:19:17,909 --> 00:19:15,600
and all their friends who are there and

397
00:19:19,990 --> 00:19:17,919
then come across to the launch pad

398
00:19:21,430 --> 00:19:20,000
they'll go up the launch tower come

399
00:19:23,510 --> 00:19:21,440
across the crew arm

400
00:19:25,110 --> 00:19:23,520
and at about two hours two and a half

401
00:19:26,070 --> 00:19:25,120
hours before launch they'll be entering

402
00:19:29,990 --> 00:19:26,080
the vehicle

403
00:19:33,510 --> 00:19:30,000
get uh all strapped in

404
00:19:36,630 --> 00:19:33,520
get all safe and about

405
00:19:37,110 --> 00:19:36,640
approximately about double check my time

406
00:19:39,510 --> 00:19:37,120
here

407
00:19:41,510 --> 00:19:39,520
at about 45 minutes before launch is

408
00:19:44,549 --> 00:19:41,520
when we'll do the final go poll

409
00:19:47,029 --> 00:19:44,559
for um for loading the vehicle and

410
00:19:48,630 --> 00:19:47,039
for arming the escape system we have the

411
00:19:51,029 --> 00:19:48,640
launch escape system on dragon

412
00:19:52,630 --> 00:19:51,039
that's ready to go just in case we need

413
00:19:53,510 --> 00:19:52,640

to uh if something goes wrong with the

414
00:19:55,590 --> 00:19:53,520
launch vehicle

415
00:19:57,510 --> 00:19:55,600
dragon can escape the vehicle the the

416
00:19:58,950 --> 00:19:57,520
crew to safety and splash down to the

417
00:20:02,149 --> 00:19:58,960
ocean so that'll be armed

418
00:20:04,390 --> 00:20:02,159
at that point at about 30 minutes before

419
00:20:05,750 --> 00:20:04,400
launch is when we start loading the

420
00:20:08,470 --> 00:20:05,760
launch vehicle

421
00:20:09,909 --> 00:20:08,480
with propellants and uh and and we're

422
00:20:11,669 --> 00:20:09,919
off

423
00:20:13,270 --> 00:20:11,679
let's go next to our line drawing that

424
00:20:14,789 --> 00:20:13,280
we have

425
00:20:16,870 --> 00:20:14,799
this gives you a sense of what it looks

426
00:20:18,470 --> 00:20:16,880
like when we're actually doing launch

427
00:20:20,149 --> 00:20:18,480
i won't go through all the details but

428
00:20:23,270 --> 00:20:20,159
come at some of the highlights here

429
00:20:25,669 --> 00:20:23,280
about two minutes and 40 seconds we have

430
00:20:27,909 --> 00:20:25,679
our first and second stage separation

431
00:20:28,870 --> 00:20:27,919
after that happens the first stage will

432
00:20:31,590 --> 00:20:28,880
land on

433
00:20:32,230 --> 00:20:31,600
the drone ship which is heading out

434
00:20:34,950 --> 00:20:32,240
right now

435
00:20:36,310 --> 00:20:34,960
to be in position to be ready for that

436
00:20:38,710 --> 00:20:36,320
and then the second stage will continue

437
00:20:41,029 --> 00:20:38,720
to carry dragon to orbit

438
00:20:41,830 --> 00:20:41,039

about 8 minutes and 50 seconds into the

439
00:20:43,990 --> 00:20:41,840
mission

440
00:20:45,909 --> 00:20:44,000
the second engine will cut out shortly

441
00:20:48,470 --> 00:20:45,919
after that dragon will

442
00:20:50,310 --> 00:20:48,480
separate and they're off on their

443
00:20:51,990 --> 00:20:50,320
phasing journey to station

444
00:20:53,590 --> 00:20:52,000
if we go to the next line drawing we can

445
00:20:55,430 --> 00:20:53,600
see that

446
00:20:57,510 --> 00:20:55,440
we get a sense of what this looks like

447
00:20:59,029 --> 00:20:57,520
so phasing is this process

448
00:21:00,630 --> 00:20:59,039
where we're essentially catching up with

449
00:21:02,310 --> 00:21:00,640
space station

450
00:21:03,909 --> 00:21:02,320
the process is that you know space

451
00:21:06,549 --> 00:21:03,919
station's zooming around the earth

452
00:21:07,990 --> 00:21:06,559
very fast so is dragon and you're trying

453
00:21:08,549 --> 00:21:08,000
to do this game where you're using

454
00:21:11,590 --> 00:21:08,559
gravity

455
00:21:13,350 --> 00:21:11,600
and um the behavior of orbital mechanics

456
00:21:14,950 --> 00:21:13,360
as well as minimizing the amount of fuel

457
00:21:16,470 --> 00:21:14,960
that you have to use to catch up

458
00:21:18,310 --> 00:21:16,480
and get the two vehicles to come

459
00:21:19,029 --> 00:21:18,320
together so we go through this process

460
00:21:20,789 --> 00:21:19,039
of phasing

461
00:21:22,390 --> 00:21:20,799
and based on the orbital mechanics the

462
00:21:24,149 --> 00:21:22,400
time of the day of launch

463
00:21:26,470 --> 00:21:24,159

in this case this particular phasing

464
00:21:28,870 --> 00:21:26,480
time will take about 25 hours

465
00:21:30,470 --> 00:21:28,880
about 25 hours we'll be close to where

466
00:21:33,190 --> 00:21:30,480
we need to be

467
00:21:34,549 --> 00:21:33,200
to to basically be in position to come

468
00:21:35,830 --> 00:21:34,559
up to station

469
00:21:39,669 --> 00:21:35,840
and then a few hours after that we'll

470
00:21:42,310 --> 00:21:41,110
let's go ahead and we'll actually come

471
00:21:44,549 --> 00:21:42,320
back and i'll talk a little bit about

472
00:21:47,590 --> 00:21:44,559
what's going to happen once they dock

473
00:21:49,350 --> 00:21:47,600
so the crew docks um on station

474
00:21:51,110 --> 00:21:49,360
and of course obviously they're going to

475
00:21:53,029 --> 00:21:51,120
come through and they'll be welcomed by

476
00:21:54,390 --> 00:21:53,039
the other crew that's up there

477
00:21:56,630 --> 00:21:54,400
and then start to get to work very

478
00:21:58,549 --> 00:21:56,640
quickly two things that

479
00:21:59,990 --> 00:21:58,559
that particularly involve spacex that

480
00:22:01,590 --> 00:22:00,000
will be happening during their six

481
00:22:03,510 --> 00:22:01,600
months up on station

482
00:22:05,669 --> 00:22:03,520
one is coming up in just a few weeks we

483
00:22:08,789 --> 00:22:05,679
have our cargo first cargo

484
00:22:12,149 --> 00:22:08,799
uh dragon our new dragon 2 cargo vehicle

485
00:22:12,950 --> 00:22:12,159
but it'll be our crs 21 mission um we'll

486
00:22:15,510 --> 00:22:12,960
be heading up

487
00:22:17,510 --> 00:22:15,520
and that's full of science um for all of

488
00:22:19,909 --> 00:22:17,520

this crew for the crew one crew to be

489
00:22:20,950 --> 00:22:19,919
working on um so the first few weeks of

490
00:22:21,909 --> 00:22:20,960
after they've docked

491
00:22:23,029 --> 00:22:21,919
they're going to be getting ready for

492
00:22:24,230 --> 00:22:23,039
that they're going to be wrapping up

493
00:22:26,549 --> 00:22:24,240
other work

494
00:22:27,750 --> 00:22:26,559
and preparing and when crs-21 shows up

495
00:22:29,110 --> 00:22:27,760
they'll be spending a lot of time

496
00:22:30,549 --> 00:22:29,120
working on all the critical science

497
00:22:32,789 --> 00:22:30,559
that's going on there

498
00:22:34,789 --> 00:22:32,799
um and then near the end of their time

499
00:22:37,750 --> 00:22:34,799
at the end of the six months or so

500
00:22:39,830 --> 00:22:37,760
um we'll be sending up another dragon so

501
00:22:41,590 --> 00:22:39,840
crew two dragon will go up

502
00:22:43,669 --> 00:22:41,600
again with another four astronauts on

503
00:22:46,549 --> 00:22:43,679
board and that dragon will go up

504
00:22:47,270 --> 00:22:46,559
dock to station and again there'll be a

505
00:22:49,110 --> 00:22:47,280
handoff

506
00:22:51,110 --> 00:22:49,120
everyone will see each other hand off

507
00:22:53,430 --> 00:22:51,120
the work and about a week later

508
00:22:54,789 --> 00:22:53,440
our crew one crew will come home let's

509
00:22:57,110 --> 00:22:54,799
take a look at what that looks like in a

510
00:22:59,510 --> 00:22:57,120
line drawing

511
00:23:00,470 --> 00:22:59,520
so you can see here we do another

512
00:23:02,149 --> 00:23:00,480
departure

513
00:23:04,470 --> 00:23:02,159

docking both the docking and the

514
00:23:06,230 --> 00:23:04,480
undocking process is an automated

515
00:23:08,710 --> 00:23:06,240
process it's fully autonomous

516
00:23:10,070 --> 00:23:08,720
of course at any time during the docking

517
00:23:12,230 --> 00:23:10,080
the astronauts are

518
00:23:13,270 --> 00:23:12,240
are able to take control both astronauts

519
00:23:15,430 --> 00:23:13,280
on the vehicle and

520
00:23:16,870 --> 00:23:15,440
iss during docking and undocking are

521
00:23:17,590 --> 00:23:16,880
watching closely everything that's

522
00:23:18,630 --> 00:23:17,600
happening

523
00:23:20,630 --> 00:23:18,640
i want to make sure everything's

524
00:23:22,710 --> 00:23:20,640
happening correctly

525
00:23:24,710 --> 00:23:22,720
as we move away from station we get into

526
00:23:26,870 --> 00:23:24,720
position to actually start our phasing

527
00:23:28,710 --> 00:23:26,880
to come home it's the same process

528
00:23:29,830 --> 00:23:28,720
that i talked about we need to phase to

529
00:23:31,270 --> 00:23:29,840
make sure that we're going to hit the

530
00:23:33,190 --> 00:23:31,280
right spot

531
00:23:35,110 --> 00:23:33,200
on the earth at the right time for

532
00:23:37,590 --> 00:23:35,120
splash down

533
00:23:39,190 --> 00:23:37,600
after that happens um the uh our

534
00:23:41,029 --> 00:23:39,200
recovery crews will come out

535
00:23:43,269 --> 00:23:41,039
and uh and they'll be uh they'll be

536
00:23:44,470 --> 00:23:43,279
meeting the crew uh we have a large

537
00:23:46,630 --> 00:23:44,480
recovery vessel plus

538
00:23:47,909 --> 00:23:46,640

a couple of fast boats the fast boats

539
00:23:51,190 --> 00:23:47,919
will go out um

540
00:23:52,630 --> 00:23:51,200
and uh and meet the crew um and uh and

541
00:23:53,909 --> 00:23:52,640
first thing they'll do is they'll check

542
00:23:55,669 --> 00:23:53,919
the area they'll make sure everything's

543
00:23:57,830 --> 00:23:55,679
safe for approach the second fast boat

544
00:24:01,190 --> 00:23:57,840
we'll be recovering the parachutes

545
00:24:02,630 --> 00:24:01,200
um and then the um and then we'll go

546
00:24:04,070 --> 00:24:02,640
ahead with our larger vehicle which will

547
00:24:08,789 --> 00:24:04,080
pull

548
00:24:13,269 --> 00:24:11,110
all right one of the things i do want to

549
00:24:16,390 --> 00:24:13,279
mention as we talk about

550
00:24:17,990 --> 00:24:16,400
this recovery process we know that

551
00:24:20,390 --> 00:24:18,000
everybody's very excited

552
00:24:21,909 --> 00:24:20,400
about launch and very excited about

553
00:24:22,710 --> 00:24:21,919
recovery and human space flight in

554
00:24:24,310 --> 00:24:22,720
general

555
00:24:26,630 --> 00:24:24,320
we certainly do ask that everybody's

556
00:24:27,750 --> 00:24:26,640
who's involved if you come out to watch

557
00:24:29,669 --> 00:24:27,760
the launch or any of the different

558
00:24:31,830 --> 00:24:29,679
operations that we're doing that please

559
00:24:33,269 --> 00:24:31,840
you know wear your masks and and follow

560
00:24:34,710 --> 00:24:33,279
social distancing guidelines do the

561
00:24:35,269 --> 00:24:34,720
right things there to keep everybody

562
00:24:37,269 --> 00:24:35,279
safe

563
00:24:38,950 --> 00:24:37,279

and certainly during recovery we ask

564
00:24:41,190 --> 00:24:38,960
that all the boaters

565
00:24:42,950 --> 00:24:41,200
pay good attention to what the navy and

566
00:24:44,470 --> 00:24:42,960
the coast guard regulations are and what

567
00:24:45,830 --> 00:24:44,480
their advisories will be

568
00:24:47,269 --> 00:24:45,840
it's very important that we keep all of

569
00:24:48,470 --> 00:24:47,279
our recovery crews and the crew

570
00:24:51,510 --> 00:24:48,480
themselves the astronauts

571
00:24:53,190 --> 00:24:51,520
to keep them safe i want to take

572
00:24:55,029 --> 00:24:53,200
one more moment here to do a couple of

573
00:24:57,110 --> 00:24:55,039
important thanks

574
00:24:58,710 --> 00:24:57,120
number one i want to thank all of the

575
00:25:01,430 --> 00:24:58,720
spacexers

576
00:25:03,350 --> 00:25:01,440
and their families and in all of our

577
00:25:04,070 --> 00:25:03,360
different teams and partners who've been

578
00:25:06,470 --> 00:25:04,080
involved

579
00:25:08,789 --> 00:25:06,480
in all of this effort to get us here

580
00:25:10,070 --> 00:25:08,799
it's a it's a very big team and part of

581
00:25:11,430 --> 00:25:10,080
certification

582
00:25:13,430 --> 00:25:11,440
as we've gone through we talked about

583
00:25:15,350 --> 00:25:13,440
the other day that nasa's now certified

584
00:25:16,390 --> 00:25:15,360
all of our systems for human space

585
00:25:18,230 --> 00:25:16,400
flight

586
00:25:20,390 --> 00:25:18,240
that certification effort is really

587
00:25:21,190 --> 00:25:20,400
important and it means a lot and it

588
00:25:23,430 --> 00:25:21,200

represents

589
00:25:25,029 --> 00:25:23,440
the countless really hours and hours of

590
00:25:27,110 --> 00:25:25,039
work that were put in

591
00:25:29,590 --> 00:25:27,120
by all of these teams it's dragon it's

592
00:25:32,789 --> 00:25:29,600
falcon the ground teams the launch

593
00:25:34,470 --> 00:25:32,799
site teams um it's the factory it's all

594
00:25:36,950 --> 00:25:34,480
of our hardware and software

595
00:25:38,230 --> 00:25:36,960
operators everybody all of them have put

596
00:25:39,510 --> 00:25:38,240
this put their time in

597
00:25:41,750 --> 00:25:39,520
and then sacrificed and done the

598
00:25:43,269 --> 00:25:41,760
dedication needed the same is true for

599
00:25:44,630 --> 00:25:43,279
all of our nasa partners and all the

600
00:25:47,029 --> 00:25:44,640
vendor partners and all the time they

601
00:25:48,950 --> 00:25:47,039
put into it so a big thank you there

602
00:25:50,390 --> 00:25:48,960
and then finally a very important

603
00:25:52,549 --> 00:25:50,400
special thank you

604
00:25:54,789 --> 00:25:52,559
to the astronauts who will be flying

605
00:25:56,470 --> 00:25:54,799
victor mike shannon and soichi

606
00:25:58,630 --> 00:25:56,480
and to your families we thank you for

607
00:26:00,710 --> 00:25:58,640
the trust that you've put into spacex

608
00:26:03,190 --> 00:26:00,720
to get you to space to be there as a

609
00:26:06,549 --> 00:26:03,200
lifeboat and to bring you home safely

610
00:26:10,950 --> 00:26:09,269
now we'll hear from kurt talk about the

611
00:26:12,549 --> 00:26:10,960
science and the reason that these guys

612
00:26:13,669 --> 00:26:12,559
are actually going up there take it away

613
00:26:16,470 --> 00:26:13,679

kurt

614
00:26:16,870 --> 00:26:16,480
thank you as joel mentioned earlier it

615
00:26:19,110 --> 00:26:16,880
was

616
00:26:20,070 --> 00:26:19,120
less than two weeks ago that we were

617
00:26:23,350 --> 00:26:20,080
celebrating

618
00:26:24,470 --> 00:26:23,360
20 years of continuous crude presence on

619
00:26:27,430 --> 00:26:24,480
orbit

620
00:26:30,070 --> 00:26:27,440
and we weren't celebrating an ending but

621
00:26:32,390 --> 00:26:30,080
really just the end of the beginning

622
00:26:34,630 --> 00:26:32,400
the launch coming up with additional

623
00:26:37,510 --> 00:26:34,640
crew members to the iss

624
00:26:39,990 --> 00:26:37,520
is the start of a new era for research

625
00:26:42,950 --> 00:26:40,000
and discovery on board

626
00:26:43,669 --> 00:26:42,960
the capabilities of the crew dragon

627
00:26:47,029 --> 00:26:43,679
bringing

628
00:26:50,630 --> 00:26:47,039
additional crew and samples back

629
00:26:53,350 --> 00:26:50,640
to the site here at ksc

630
00:26:55,190 --> 00:26:53,360
are an amazing capability we hope to

631
00:26:55,669 --> 00:26:55,200
double the amount of crew time going

632
00:26:58,310 --> 00:26:55,679
into

633
00:27:00,470 --> 00:26:58,320
science and research we'll again have

634
00:27:02,149 --> 00:27:00,480
easier access for those samples when

635
00:27:04,549 --> 00:27:02,159
they come back to earth

636
00:27:05,510 --> 00:27:04,559
and we'll have easier access to our crew

637
00:27:07,750 --> 00:27:05,520
members

638
00:27:10,070 --> 00:27:07,760

both pre and post flight to conduct some

639
00:27:12,230 --> 00:27:10,080
of our human research

640
00:27:13,990 --> 00:27:12,240
now we do have several investigations

641
00:27:16,390 --> 00:27:14,000
going up on this flight

642
00:27:17,750 --> 00:27:16,400
we've got about 28 kilograms of payloads

643
00:27:21,669 --> 00:27:17,760
going up

644
00:27:25,269 --> 00:27:21,679
some of those experiments will be

645
00:27:27,750 --> 00:27:25,279
going up for soichi to include

646
00:27:29,590 --> 00:27:27,760
education and public outreach

647
00:27:31,830 --> 00:27:29,600
experiments for him

648
00:27:33,110 --> 00:27:31,840
and then we have a student experiment

649
00:27:36,389 --> 00:27:33,120
called genes in space

650
00:27:37,590 --> 00:27:36,399
7 which will be looking at the humble

651
00:27:40,950 --> 00:27:37,600
fruit fly

652
00:27:44,149 --> 00:27:40,960
and how it adapts on orbit to

653
00:27:47,029 --> 00:27:44,159
changes in circadian rhythm

654
00:27:49,590 --> 00:27:47,039
circadian rhythm is our sensitivity to

655
00:27:52,389 --> 00:27:49,600
the day-night cycle here on earth

656
00:27:54,789 --> 00:27:52,399
and if you can imagine imagine on orbit

657
00:27:57,430 --> 00:27:54,799
when you have 16 day night cycles

658
00:27:58,470 --> 00:27:57,440
every day it can be a bit confusing to

659
00:28:00,470 --> 00:27:58,480
the body

660
00:28:01,669 --> 00:28:00,480
well fruit flies are great little model

661
00:28:04,389 --> 00:28:01,679
organisms

662
00:28:05,990 --> 00:28:04,399
they help us understand what's going on

663
00:28:09,110 --> 00:28:06,000

in the human body because they

664
00:28:11,269 --> 00:28:09,120
share about 75 percent of the genes

665
00:28:12,710 --> 00:28:11,279
that cause disease in the human body so

666
00:28:15,190 --> 00:28:12,720
we'll be looking at those

667
00:28:17,269 --> 00:28:15,200
and then last but not least our

668
00:28:18,710 --> 00:28:17,279
astronauts are members of our human

669
00:28:20,310 --> 00:28:18,720
research team

670
00:28:23,750 --> 00:28:20,320
and they'll be conducting a number of

671
00:28:26,070 --> 00:28:23,760
experiments uh on themselves both before

672
00:28:27,350 --> 00:28:26,080
during and after the mission one of

673
00:28:30,230 --> 00:28:27,360
those is food

674
00:28:32,470 --> 00:28:30,240
physiology which is looking at whether

675
00:28:35,269 --> 00:28:32,480
nutritional changes

676
00:28:36,310 --> 00:28:35,279
in the astronauts diet can be beneficial

677
00:28:38,950 --> 00:28:36,320
for preventing

678
00:28:41,430 --> 00:28:38,960
space flight impairments that we

679
00:28:45,269 --> 00:28:41,440
typically see on orbit

680
00:28:48,870 --> 00:28:45,279
so again for mike victor soichi

681
00:28:50,230 --> 00:28:48,880
and especially my old alum shannon from

682
00:28:53,029 --> 00:28:50,240
rice

683
00:28:53,750 --> 00:28:53,039
godspeed and thank you so much for the

684
00:28:56,310 --> 00:28:53,760
amount of

685
00:28:58,470 --> 00:28:56,320
hard work and research you're going to

686
00:29:01,350 --> 00:28:58,480
be putting in

687
00:29:02,950 --> 00:29:01,360
thanks kurt and now the topic everybody

688
00:29:04,470 --> 00:29:02,960

knows that likes to talk about is

689
00:29:06,310 --> 00:29:04,480
weather so let's

690
00:29:08,950 --> 00:29:06,320
turn it over to arlena and have her give

691
00:29:11,590 --> 00:29:08,960
us the launch weather forecast

692
00:29:12,149 --> 00:29:11,600
so you know as for us here in florida

693
00:29:15,190 --> 00:29:12,159
we've been

694
00:29:16,950 --> 00:29:15,200
plagued by tropical storm ada for most

695
00:29:18,710 --> 00:29:16,960
of the upcoming weekend

696
00:29:21,110 --> 00:29:18,720
was a little uncertain at first if it

697
00:29:23,830 --> 00:29:21,120
was going to clear out this weekend but

698
00:29:26,230 --> 00:29:23,840
thankfully aydah is well out to sea and

699
00:29:28,870 --> 00:29:26,240
moving further with time and with

700
00:29:29,830 --> 00:29:28,880
its passage it brought a bit of a cool

701
00:29:31,269 --> 00:29:29,840
front through

702
00:29:33,029 --> 00:29:31,279
here in florida though i know it doesn't

703
00:29:34,549 --> 00:29:33,039
feel like it very much right now

704
00:29:36,310 --> 00:29:34,559
if you're if you're here locally still

705
00:29:38,389 --> 00:29:36,320
pretty warm and humid but

706
00:29:40,630 --> 00:29:38,399
overall it's going to give us a pretty

707
00:29:42,070 --> 00:29:40,640
good shot for weather for our primary

708
00:29:44,470 --> 00:29:42,080
launch day so if we could take a look

709
00:29:47,669 --> 00:29:44,480
here at the forecast

710
00:29:50,870 --> 00:29:47,679
so uh we are looking right now at a

711
00:29:52,789 --> 00:29:50,880
uh go uh weather excuse me i should say

712
00:29:56,070 --> 00:29:52,799
a no-go weather probability of

713
00:29:57,590 --> 00:29:56,080

40 percent uh with that kind of weak

714
00:30:00,149 --> 00:29:57,600
front that came through

715
00:30:00,789 --> 00:30:00,159
a couple days ago it's going to kind of

716
00:30:03,430 --> 00:30:00,799
creep back

717
00:30:05,430 --> 00:30:03,440
north towards us and going to keep our

718
00:30:07,110 --> 00:30:05,440
winds light and variable so

719
00:30:09,110 --> 00:30:07,120
that onshore wind component not going to

720
00:30:11,909 --> 00:30:09,120
be as much of a concern for

721
00:30:13,830 --> 00:30:11,919
our attempt to launch on sunday but we

722
00:30:15,350 --> 00:30:13,840
are going to see some

723
00:30:18,149 --> 00:30:15,360
few showers in the area with some

724
00:30:21,269 --> 00:30:18,159
cumulus clouds and also with the concern

725
00:30:22,149 --> 00:30:21,279
for flying the both the rocket and the

726
00:30:24,549 --> 00:30:22,159
dragon

727
00:30:25,750 --> 00:30:24,559
capsule through any precipitation any of

728
00:30:28,630 --> 00:30:25,760
those showers

729
00:30:29,269 --> 00:30:28,640
that may be out there during the launch

730
00:30:30,870 --> 00:30:29,279
time

731
00:30:32,310 --> 00:30:30,880
now if we take a look at our backup

732
00:30:36,070 --> 00:30:32,320
window going into

733
00:30:38,630 --> 00:30:36,080
wednesday so a couple days later we

734
00:30:40,310 --> 00:30:38,640
dry out quite a bit a nice area of high

735
00:30:42,070 --> 00:30:40,320
pressure we get a true

736
00:30:43,510 --> 00:30:42,080
florida cold front coming through so

737
00:30:46,230 --> 00:30:43,520
temperatures i can see

738
00:30:48,870 --> 00:30:46,240

going to be a bit cool for at least us

739
00:30:50,950 --> 00:30:48,880
here in florida maybe not for everybody

740
00:30:54,310 --> 00:30:50,960
our rain chances drop quite a bit so we

741
00:30:56,630 --> 00:30:54,320
only have concern for a few clouds

742
00:30:58,310 --> 00:30:56,640
the downside is however winds are going

743
00:31:01,190 --> 00:30:58,320
to be coming from the northeast

744
00:31:03,269 --> 00:31:01,200
a little bit a little bit stronger on

745
00:31:05,590 --> 00:31:03,279
that particular day but that is

746
00:31:06,950 --> 00:31:05,600
something that we'll be monitoring uh

747
00:31:09,190 --> 00:31:06,960
with the weather

748
00:31:10,789 --> 00:31:09,200
so good luck everybody and we'll be here

749
00:31:11,350 --> 00:31:10,799
during our part with the weather to make

750
00:31:13,909 --> 00:31:11,360
sure we

751
00:31:15,110 --> 00:31:13,919
launch successfully great thanks a lot

752
00:31:17,110 --> 00:31:15,120
thanks everybody else

753
00:31:18,710 --> 00:31:17,120
um we're ready for questions there's a

754
00:31:19,669 --> 00:31:18,720
lot of people in the queue as you can

755
00:31:21,830 --> 00:31:19,679
imagine

756
00:31:23,830 --> 00:31:21,840
it's also been a long day we've got

757
00:31:25,269 --> 00:31:23,840
about a half an hour so for question and

758
00:31:27,990 --> 00:31:25,279
answer i'm going to

759
00:31:29,110 --> 00:31:28,000
call on you by name and affiliation and

760
00:31:32,149 --> 00:31:29,120
if you can

761
00:31:35,350 --> 00:31:32,159
try to limit your question to one

762
00:31:36,630 --> 00:31:35,360
like one part question so that we can

763
00:31:39,750 --> 00:31:36,640

try to get to as many

764
00:31:41,110 --> 00:31:39,760
folks as we can on the line and uh first

765
00:31:44,070 --> 00:31:41,120
up is marcia dunn

766
00:31:44,950 --> 00:31:44,080
associated press oh yes hi i'm hoping

767
00:31:47,509 --> 00:31:44,960
you can hear me

768
00:31:49,750 --> 00:31:47,519
um for steve i'm i'm wondering what is

769
00:31:51,590 --> 00:31:49,760
nasa's latest thinking about elon being

770
00:31:52,710 --> 00:31:51,600
allowed into the launch control of his

771
00:31:54,789 --> 00:31:52,720
latest lab test

772
00:31:57,029 --> 00:31:54,799
come up negative and for benji how

773
00:32:01,590 --> 00:31:57,039
important is it to have him on console

774
00:32:03,110 --> 00:32:01,600
in person for this launch thank you

775
00:32:22,950 --> 00:32:03,120
i think we've got a little bit of an

776
00:32:26,389 --> 00:32:25,190
i think let's see i think marsha's

777
00:32:28,149 --> 00:32:26,399
question is and

778
00:32:29,590 --> 00:32:28,159
i don't know who this would be directed

779
00:32:32,950 --> 00:32:29,600
to was uh

780
00:32:35,590 --> 00:32:32,960
is there a concern relative to the

781
00:32:36,630 --> 00:32:35,600
covid concern that elon musk raised

782
00:32:39,669 --> 00:32:36,640
earlier via

783
00:32:42,710 --> 00:32:39,679
text uh tweet i believe

784
00:32:43,750 --> 00:32:42,720
let's see kyle i'll jump in and start on

785
00:32:47,029 --> 00:32:43,760
that one

786
00:32:49,990 --> 00:32:47,039
um as was in the news today

787
00:32:51,909 --> 00:32:50,000
uh it was reported that that uh elon

788
00:32:53,269 --> 00:32:51,919

took several coveted tests and of course

789
00:32:54,789 --> 00:32:53,279
that stirred up a bunch of questions

790
00:32:56,950 --> 00:32:54,799
relative to

791
00:32:58,230 --> 00:32:56,960
to you know health and potential

792
00:33:01,190 --> 00:32:58,240
contamination but

793
00:33:02,710 --> 00:33:01,200
what i can tell you is nasa uh and our

794
00:33:06,070 --> 00:33:02,720
commercial partners have

795
00:33:08,630 --> 00:33:06,080
a health stabilization plan

796
00:33:10,230 --> 00:33:08,640
in place and really it's a protocol that

797
00:33:13,350 --> 00:33:10,240
protects the flight crew

798
00:33:15,509 --> 00:33:13,360
from any uh disease or any illness

799
00:33:16,470 --> 00:33:15,519
because you know if they're compromised

800
00:33:18,950 --> 00:33:16,480
that can affect

801
00:33:20,389 --> 00:33:18,960
and jeopardize the mission so we pay a

802
00:33:22,470 --> 00:33:20,399
lot of attention to that

803
00:33:24,630 --> 00:33:22,480
and we've done that over many years this

804
00:33:26,710 --> 00:33:24,640
is something that has been in place back

805
00:33:28,710 --> 00:33:26,720
i think in the apollo time frame

806
00:33:30,070 --> 00:33:28,720
uh in shuttle for all those missions and

807
00:33:31,750 --> 00:33:30,080
for all the station

808
00:33:33,990 --> 00:33:31,760
missions as well to make sure that we're

809
00:33:36,789 --> 00:33:34,000
protecting uh the flight crew

810
00:33:37,590 --> 00:33:36,799
and how we do this is that um obviously

811
00:33:39,990 --> 00:33:37,600
the crew

812
00:33:40,870 --> 00:33:40,000
is when they come close to launch or put

813
00:33:42,870 --> 00:33:40,880

into

814
00:33:44,630 --> 00:33:42,880
a quarantine and they start that soft

815
00:33:47,669 --> 00:33:44,640
quarantine about 21 days

816
00:33:50,230 --> 00:33:47,679
prior to flight that that period's about

817
00:33:51,509 --> 00:33:50,240
from 21 days to 14 days where that soft

818
00:33:52,630 --> 00:33:51,519
quarantine they're really starting to

819
00:33:54,549 --> 00:33:52,640
isolate

820
00:33:56,710 --> 00:33:54,559
reduce their their movement their

821
00:33:59,110 --> 00:33:56,720
exposure to to other folks

822
00:34:00,470 --> 00:33:59,120
and then at 14 days to launch we call it

823
00:34:01,669 --> 00:34:00,480
a hard quarantine

824
00:34:03,590 --> 00:34:01,679
and that's where they're totally

825
00:34:07,269 --> 00:34:03,600
isolated and uh

826
00:34:09,349 --> 00:34:07,279
and really watch closely by the docks

827
00:34:10,550 --> 00:34:09,359
so that's a protocol that's in place for

828
00:34:13,109 --> 00:34:10,560
the for the crew

829
00:34:14,149 --> 00:34:13,119
in addition to that uh that protocol

830
00:34:16,950 --> 00:34:14,159
also is for

831
00:34:17,669 --> 00:34:16,960
all folks that that have contact with

832
00:34:21,030 --> 00:34:17,679
the crew

833
00:34:22,149 --> 00:34:21,040
so what we do is we train our personnel

834
00:34:24,790 --> 00:34:22,159
both our personnel

835
00:34:27,109 --> 00:34:24,800
and spacex personnel in this case what

836
00:34:30,869 --> 00:34:27,119
these protocols are we train them

837
00:34:34,149 --> 00:34:30,879
we make sure that that we understand

838
00:34:35,510 --> 00:34:34,159

hygiene social distancing mass

839
00:34:37,990 --> 00:34:35,520
requirements went around

840
00:34:38,950 --> 00:34:38,000
the crew you have to have certain

841
00:34:41,109 --> 00:34:38,960
protocols met

842
00:34:42,310 --> 00:34:41,119
before you can get close to the crew

843
00:34:45,270 --> 00:34:42,320
whether you're training the crew or

844
00:34:47,750 --> 00:34:45,280
getting them prepped for launch

845
00:34:48,470 --> 00:34:47,760
and those people also depending on the

846
00:34:50,470 --> 00:34:48,480
the level

847
00:34:52,470 --> 00:34:50,480
of contact they have with the crew are

848
00:34:54,869 --> 00:34:52,480
coveted tested to make sure that

849
00:34:56,310 --> 00:34:54,879
that they are safe and again that access

850
00:34:58,390 --> 00:34:56,320
is very restricted so you can kind of

851
00:35:01,030 --> 00:34:58,400
think of it as concentric circles on

852
00:35:01,990 --> 00:35:01,040
the cruise in the center and protecting

853
00:35:04,230 --> 00:35:02,000
as it goes out

854
00:35:05,349 --> 00:35:04,240
and as those circles go out again those

855
00:35:08,230 --> 00:35:05,359
protocols

856
00:35:09,430 --> 00:35:08,240
change relative to the contact that

857
00:35:11,910 --> 00:35:09,440
people have

858
00:35:12,550 --> 00:35:11,920
with the crew now if any of those

859
00:35:15,750 --> 00:35:12,560
personnel

860
00:35:16,390 --> 00:35:15,760
in that ring or any of those rings comes

861
00:35:19,190 --> 00:35:16,400
up

862
00:35:21,589 --> 00:35:19,200
with any covet type symptoms they're

863
00:35:22,069 --> 00:35:21,599

tested and we do contact tracing to make

864
00:35:24,230 --> 00:35:22,079
sure

865
00:35:26,470 --> 00:35:24,240
that we knew who they were around and

866
00:35:27,510 --> 00:35:26,480
what what impact that could possibly

867
00:35:31,670 --> 00:35:27,520
have

868
00:35:34,310 --> 00:35:31,680
stabilization place

869
00:35:35,829 --> 00:35:34,320
or a plan in place and it has worked

870
00:35:36,550 --> 00:35:35,839
effectively for many years just like

871
00:35:38,310 --> 00:35:36,560
it's working

872
00:35:39,750 --> 00:35:38,320
uh today in this covent environment

873
00:35:42,230 --> 00:35:39,760
vinci would you like to add any

874
00:35:43,109 --> 00:35:42,240
specific words for the spacex team sure

875
00:35:44,950 --> 00:35:43,119
absolutely

876
00:35:46,150 --> 00:35:44,960
you know um first of all it's important

877
00:35:47,990 --> 00:35:46,160
to remember that we have thousands of

878
00:35:49,829 --> 00:35:48,000
people working at spacex and it takes

879
00:35:51,270 --> 00:35:49,839
all of those people to to work together

880
00:35:52,390 --> 00:35:51,280
to build the systems that we do and to

881
00:35:54,950 --> 00:35:52,400
launch rockets and

882
00:35:56,710 --> 00:35:54,960
and launch the dragon spacecraft so um

883
00:35:57,270 --> 00:35:56,720
it's important that we understand that

884
00:36:00,790 --> 00:35:57,280
you know

885
00:36:03,270 --> 00:36:00,800
that any one of our our our team members

886
00:36:04,470 --> 00:36:03,280
if they do have code or or get a test or

887
00:36:06,870 --> 00:36:04,480
whatever then we we

888
00:36:08,950 --> 00:36:06,880

we work through that and we have all of

889
00:36:10,310 --> 00:36:08,960
the protections in place that we do

890
00:36:12,310 --> 00:36:10,320
to maintain to make sure that

891
00:36:13,430 --> 00:36:12,320
everybody's safe certainly in the case

892
00:36:15,510 --> 00:36:13,440
of our launches

893
00:36:17,030 --> 00:36:15,520
in the case of the crew everybody's safe

894
00:36:18,790 --> 00:36:17,040
we do the contact tracing

895
00:36:20,470 --> 00:36:18,800
that needs to be done and i can assure

896
00:36:20,790 --> 00:36:20,480
everyone that that we're looking good

897
00:36:22,310 --> 00:36:20,800
for

898
00:36:24,950 --> 00:36:22,320
the crew one launch and all of the

899
00:36:27,990 --> 00:36:24,960
critical personnel involved

900
00:36:31,670 --> 00:36:30,310
for the hsp you know it's the restricted

901
00:36:33,430 --> 00:36:31,680
access and everything

902
00:36:34,710 --> 00:36:33,440
and no one's above this access it

903
00:36:37,430 --> 00:36:34,720
doesn't matter if if you're

904
00:36:39,349 --> 00:36:37,440
elon musk or jim bridenstine if you have

905
00:36:41,510 --> 00:36:39,359
not met those protocols or if any of

906
00:36:42,950 --> 00:36:41,520
those protocols have been compromised

907
00:36:44,550 --> 00:36:42,960
then we're not going to let you near the

908
00:36:45,910 --> 00:36:44,560
crew and again it's to protect the

909
00:36:47,430 --> 00:36:45,920
overall mission

910
00:36:49,270 --> 00:36:47,440
that we're trying to accomplish and

911
00:36:50,950 --> 00:36:49,280
everybody recognizes that it's it's no

912
00:36:52,950 --> 00:36:50,960
surprise

913
00:36:55,349 --> 00:36:52,960

thanks to you both i think we have the

914
00:37:10,950 --> 00:36:55,359
audio problem fixed we'll

915
00:37:15,589 --> 00:37:13,190
okay now let's go to the next one i

916
00:37:17,349 --> 00:37:15,599
think let's try bill harwood with cbs

917
00:37:20,710 --> 00:37:17,359
news

918
00:37:22,950 --> 00:37:20,720
i'm here kyle can you hear me yep

919
00:37:24,630 --> 00:37:22,960
great um i'm not sure who this is for

920
00:37:25,829 --> 00:37:24,640
but uh just a really quick question and

921
00:37:27,670 --> 00:37:25,839
if you've already covered this i

922
00:37:28,550 --> 00:37:27,680
apologize in advance i had some phone

923
00:37:30,790 --> 00:37:28,560
problems

924
00:37:32,310 --> 00:37:30,800
was part of the issue today the expected

925
00:37:33,030 --> 00:37:32,320
weather in the recovery zone in other

926
00:37:35,750 --> 00:37:33,040
words

927
00:37:37,589 --> 00:37:35,760
was the forecast to be out of limits or

928
00:37:39,349 --> 00:37:37,599
was the forecast favorable and the drone

929
00:37:42,870 --> 00:37:39,359
ship couldn't get there in time

930
00:37:45,430 --> 00:37:42,880
or was it both thanks

931
00:37:46,790 --> 00:37:45,440
it's uh fundamentally this is uh it was

932
00:37:47,829 --> 00:37:46,800
an issue of getting the drone ship there

933
00:37:49,270 --> 00:37:47,839
in time

934
00:37:51,430 --> 00:37:49,280
the weather was such because of this

935
00:37:53,430 --> 00:37:51,440
tropical storm that we couldn't get the

936
00:37:55,670 --> 00:37:53,440
drone ship to leave in time

937
00:37:57,510 --> 00:37:55,680
um and get there and the sea states are

938
00:37:58,310 --> 00:37:57,520

such that we just can't get the speed up

939
00:38:00,069 --> 00:37:58,320
to get there

940
00:38:02,470 --> 00:38:00,079
that we're hoping to to hit the saturday

941
00:38:05,510 --> 00:38:02,480
launch we were able to leave

942
00:38:07,030 --> 00:38:05,520
port yesterday around midday and uh and

943
00:38:08,550 --> 00:38:07,040
now we're gonna be getting there in time

944
00:38:10,950 --> 00:38:08,560
for uh plenty of time for a sunday

945
00:38:14,470 --> 00:38:13,589
okay next is paul brinkman united press

946
00:38:17,589 --> 00:38:14,480
international

947
00:38:18,790 --> 00:38:17,599
go ahead paul hi yes thanks for taking

948
00:38:22,069 --> 00:38:18,800
my call can you hear me

949
00:38:24,150 --> 00:38:22,079
yes sir okay um yeah my question is

950
00:38:25,910 --> 00:38:24,160
about the uh just about the change

951
00:38:27,349 --> 00:38:25,920
um if one of you could walk us through a

952
00:38:30,630 --> 00:38:27,359
little bit of uh i guess

953
00:38:32,230 --> 00:38:30,640
norm or benji about what happens when

954
00:38:35,829 --> 00:38:32,240
you delay a launch

955
00:38:37,990 --> 00:38:35,839
by a day like this and a crude launch

956
00:38:39,270 --> 00:38:38,000
you know does anything have to be done

957
00:38:42,710 --> 00:38:39,280
to the capsule

958
00:38:45,589 --> 00:38:42,720
or i'm assuming no more fuel has to be

959
00:38:47,910 --> 00:38:45,599
added for a longer flight but um

960
00:38:48,950 --> 00:38:47,920
do th does the crew have to repack their

961
00:38:50,470 --> 00:38:48,960
cargo or

962
00:38:51,750 --> 00:38:50,480
in a different way or anything like that

963
00:38:52,950 --> 00:38:51,760

since they're going to be up there three

964
00:38:54,390 --> 00:38:52,960
times longer than they are they're going

965
00:38:56,230 --> 00:38:54,400
to be in flight

966
00:38:58,950 --> 00:38:56,240
longer than they thought they would

967
00:39:02,230 --> 00:39:00,310
let's see benji why don't you start out

968
00:39:04,790 --> 00:39:02,240
with the vehicle the vehicle sure

969
00:39:05,510 --> 00:39:04,800
absolutely so in terms of the vehicle um

970
00:39:06,950 --> 00:39:05,520
really there

971
00:39:09,270 --> 00:39:06,960
there's nothing different that we do

972
00:39:10,390 --> 00:39:09,280
right we we were we checked out ready as

973
00:39:11,030 --> 00:39:10,400
we went through all those tests that i

974
00:39:13,190 --> 00:39:11,040
talked about

975
00:39:15,030 --> 00:39:13,200
um in the lead up really many months up

976
00:39:16,310 --> 00:39:15,040
to launch and now we do these tests this

977
00:39:16,870 --> 00:39:16,320
week to make sure we're ready we go

978
00:39:18,550 --> 00:39:16,880
through these

979
00:39:20,150 --> 00:39:18,560
flight readiness reviews like we wrapped

980
00:39:21,030 --> 00:39:20,160
up earlier this week the launch rates

981
00:39:22,870 --> 00:39:21,040
review

982
00:39:25,030 --> 00:39:22,880
all of these are actually go for launch

983
00:39:26,710 --> 00:39:25,040
tomorrow the only thing that that's not

984
00:39:29,030 --> 00:39:26,720
go for launch is having that jones ship

985
00:39:31,030 --> 00:39:29,040
in position and overall weather

986
00:39:32,470 --> 00:39:31,040
and so that's that's really key there's

987
00:39:34,470 --> 00:39:32,480
nothing more that we do other than

988
00:39:35,510 --> 00:39:34,480

continue to check and double check and

989
00:39:36,950 --> 00:39:35,520
triple check

990
00:39:38,470 --> 00:39:36,960
right this is the this is what we're all

991
00:39:39,109 --> 00:39:38,480
doing all of our engineers all of us

992
00:39:41,829 --> 00:39:39,119
will be

993
00:39:42,150 --> 00:39:41,839
looking at data ensuring that everything

994
00:39:44,310 --> 00:39:42,160
is

995
00:39:45,829 --> 00:39:44,320
ready to go to take the crew safely and

996
00:39:49,990 --> 00:39:45,839
also it's going to be a good opportunity

997
00:39:53,270 --> 00:39:51,750
and then from a crew standpoint you know

998
00:39:55,270 --> 00:39:53,280
whether they're getting to space station

999
00:39:57,030 --> 00:39:55,280
in eight hours or 27 hours

1000
00:39:59,510 --> 00:39:57,040
flight day 1 rendezvous or flight day 2

1001
00:40:01,270 --> 00:39:59,520
rendezvous from a crew perspective

1002
00:40:03,670 --> 00:40:01,280
on what they take it's pretty much the

1003
00:40:05,349 --> 00:40:03,680
same now their timeline will change

1004
00:40:06,790 --> 00:40:05,359
because for a saturday launch they

1005
00:40:07,829 --> 00:40:06,800
literally would have stayed up and

1006
00:40:10,069 --> 00:40:07,839
pressed through

1007
00:40:11,190 --> 00:40:10,079
docking for the case of sunday it's a

1008
00:40:13,910 --> 00:40:11,200
flight day two launch

1009
00:40:14,950 --> 00:40:13,920
and so what that entails is the crew

1010
00:40:18,309 --> 00:40:14,960
will actually go to sleep

1011
00:40:20,150 --> 00:40:18,319
in dragon and wake up and then jump into

1012
00:40:22,710 --> 00:40:20,160
the rendezvous profile

1013
00:40:23,750 --> 00:40:22,720

and you know to prepare them to dock for

1014
00:40:25,910 --> 00:40:23,760
station

1015
00:40:27,510 --> 00:40:25,920
also for slips like this depending on

1016
00:40:28,150 --> 00:40:27,520
you know the timing of that there could

1017
00:40:29,750 --> 00:40:28,160
be

1018
00:40:31,430 --> 00:40:29,760
cargo that has to come off or science

1019
00:40:32,870 --> 00:40:31,440
that has to be refreshed and

1020
00:40:38,230 --> 00:40:32,880
maybe kirk can address that but i don't

1021
00:40:41,349 --> 00:40:38,240
believe that's the case for for sunday

1022
00:40:44,710 --> 00:40:41,359
okay next up is tarik malik space.com

1023
00:40:46,950 --> 00:40:44,720
go ahead tart hello uh

1024
00:40:48,870 --> 00:40:46,960
thank thank you so much uh and uh my

1025
00:40:49,190 --> 00:40:48,880
question i think also is for norm about

1026
00:40:58,710 --> 00:40:49,200
the

1027
00:41:02,069 --> 00:40:58,720
demo two uh with

1028
00:41:04,309 --> 00:41:02,079
kind of this this lengthy uh trip we saw

1029
00:41:05,430 --> 00:41:04,319
kind of a a lot of glimpses into what

1030
00:41:08,230 --> 00:41:05,440
life on

1031
00:41:09,430 --> 00:41:08,240
uh the crew dragon was like and i'm

1032
00:41:11,990 --> 00:41:09,440
curious with this

1033
00:41:13,589 --> 00:41:12,000
uh added time what we can expect to see

1034
00:41:13,990 --> 00:41:13,599
from the astronauts on this one will we

1035
00:41:16,870 --> 00:41:14,000
get

1036
00:41:18,790 --> 00:41:16,880
kind of like a tour a taste of what that

1037
00:41:20,230 --> 00:41:18,800
that trip is going to be like on monday

1038
00:41:21,430 --> 00:41:20,240

prior to their arrival

1039
00:41:23,430 --> 00:41:21,440
if you can kind of walk us through what

1040
00:41:23,910 --> 00:41:23,440
to expect and what the viewers might

1041
00:41:26,630 --> 00:41:23,920
expect

1042
00:41:28,150 --> 00:41:26,640
thanks okay well i'll start it out big

1043
00:41:28,550 --> 00:41:28,160
picture and then turn it over to benji

1044
00:41:30,470 --> 00:41:28,560
and

1045
00:41:32,069 --> 00:41:30,480
he can provide some some details

1046
00:41:34,230 --> 00:41:32,079
relative as well but

1047
00:41:35,510 --> 00:41:34,240
you know again launch is a big deal the

1048
00:41:37,910 --> 00:41:35,520
crew gets up they prep

1049
00:41:38,950 --> 00:41:37,920
they get on the vehicle they go launch

1050
00:41:41,190 --> 00:41:38,960
um

1051
00:41:42,870 --> 00:41:41,200
and then obviously once they get into

1052
00:41:45,430 --> 00:41:42,880
orbit they're going to do a series of

1053
00:41:47,430 --> 00:41:45,440
orbital burns to get them set up like

1054
00:41:50,230 --> 00:41:47,440
benji said for that phasing

1055
00:41:51,030 --> 00:41:50,240
to get to station the crew has a

1056
00:41:54,309 --> 00:41:51,040
timeline

1057
00:41:55,589 --> 00:41:54,319
um and we can get you information on if

1058
00:41:57,190 --> 00:41:55,599
there's kyle i don't know if there's any

1059
00:41:58,390 --> 00:41:57,200
press briefings in that time but the

1060
00:42:00,950 --> 00:41:58,400
crew is in constant

1061
00:42:01,430 --> 00:42:00,960
contact with the ground and so i'm sure

1062
00:42:03,270 --> 00:42:01,440
you know

1063
00:42:05,510 --> 00:42:03,280

you will be hearing uh from them

1064
00:42:08,390 --> 00:42:05,520
relative to that they go to sleep

1065
00:42:10,150 --> 00:42:08,400
uh they'll have a standard sleep period

1066
00:42:11,990 --> 00:42:10,160
they wake up

1067
00:42:15,030 --> 00:42:12,000
after sleeping and dragging and start

1068
00:42:17,430 --> 00:42:15,040
getting prepped again eat breakfast

1069
00:42:19,270 --> 00:42:17,440
get situated start prepping uh for the

1070
00:42:21,510 --> 00:42:19,280
day because it's a very important day

1071
00:42:22,550 --> 00:42:21,520
that you start doing those critical

1072
00:42:24,309 --> 00:42:22,560
burns

1073
00:42:25,670 --> 00:42:24,319
getting ready for the rendezvous profile

1074
00:42:28,710 --> 00:42:25,680
to get set up

1075
00:42:30,630 --> 00:42:28,720
for docking and you know there's uh

1076
00:42:31,910 --> 00:42:30,640
there's time in that day obviously for

1077
00:42:33,750 --> 00:42:31,920
if anything goes wrong

1078
00:42:35,190 --> 00:42:33,760
and then once they're on station they

1079
00:42:37,910 --> 00:42:35,200
utilize that time

1080
00:42:38,630 --> 00:42:37,920
as was stated earlier to uh to really

1081
00:42:42,870 --> 00:42:38,640
learn

1082
00:42:44,470 --> 00:42:42,880
case of an emergency

1083
00:42:45,829 --> 00:42:44,480
and obviously learn how to use a lot of

1084
00:42:47,510 --> 00:42:45,839
the facilities on station that are going

1085
00:42:49,349 --> 00:42:47,520
to be very important once they're docked

1086
00:42:50,870 --> 00:42:49,359
so benji i don't know if you had

1087
00:42:52,790 --> 00:42:50,880
anything to add

1088
00:42:54,470 --> 00:42:52,800

um sure you know it gives them more

1089
00:42:56,790 --> 00:42:54,480
opportunity to try out dragon

1090
00:42:59,030 --> 00:42:56,800
and to it and to be as a crew of four

1091
00:43:01,430 --> 00:42:59,040
members and dragon which i think will be

1092
00:43:02,790 --> 00:43:01,440
probably i assume exciting for them but

1093
00:43:04,309 --> 00:43:02,800
also it'll be great for us

1094
00:43:06,309 --> 00:43:04,319
to to learn what that is because it's

1095
00:43:06,870 --> 00:43:06,319
important um to understand that our

1096
00:43:08,470 --> 00:43:06,880
that's

1097
00:43:10,309 --> 00:43:08,480
a fully capable dragon with all four

1098
00:43:11,430 --> 00:43:10,319
seats occupied so we want to understand

1099
00:43:12,950 --> 00:43:11,440
what that's like and you know they'll be

1100
00:43:15,270 --> 00:43:12,960
getting out of their suits and floating

1101
00:43:16,790 --> 00:43:15,280
around just like we saw bob and doug do

1102
00:43:18,150 --> 00:43:16,800
i'm pretty sure there are a couple of

1103
00:43:20,309 --> 00:43:18,160
broadcast events that they'll be able to

1104
00:43:22,230 --> 00:43:20,319
do with this time period

1105
00:43:24,390 --> 00:43:22,240
and you know checking things out seeing

1106
00:43:26,230 --> 00:43:24,400
the earth go by

1107
00:43:26,420 --> 00:43:26,240
i know i'd love to be there too so it's

1108
00:43:29,829 --> 00:43:26,430
great

1109
00:43:34,390 --> 00:43:32,230
uh okay let's see let's go to i think

1110
00:43:35,829 --> 00:43:34,400
joey roulette is next with reuters go

1111
00:43:38,390 --> 00:43:35,839
ahead joey

1112
00:43:39,589 --> 00:43:38,400
hey thank you a question for joel i was

1113
00:43:43,109 --> 00:43:39,599

wondering if you could give us an

1114
00:43:46,550 --> 00:43:43,119
update on what the talks with russia are

1115
00:43:48,390 --> 00:43:46,560
uh to from mutual flights to the iss

1116
00:43:50,550 --> 00:43:48,400
um are you envisioning some kind of

1117
00:43:52,790 --> 00:43:50,560
bilateral bilateral agreement

1118
00:43:54,470 --> 00:43:52,800
um and when do you think the soonest we

1119
00:43:56,870 --> 00:43:54,480
can we can know

1120
00:43:58,790 --> 00:43:56,880
uh when you know we'll be able to fly

1121
00:44:01,910 --> 00:43:58,800
russians on a u.s group vehicle will be

1122
00:44:03,349 --> 00:44:01,920
thanks so we're looking to fly on each

1123
00:44:06,630 --> 00:44:03,359
other's vehicles

1124
00:44:08,550 --> 00:44:06,640
probably later in 2021 where we'll have

1125
00:44:09,270 --> 00:44:08,560
a cosmonaut flying on our u.s commercial

1126
00:44:12,950 --> 00:44:09,280
vehicles

1127
00:44:14,550 --> 00:44:12,960
we're working the

1128
00:44:16,069 --> 00:44:14,560
what we have to do the first kind of the

1129
00:44:17,430 --> 00:44:16,079
first step is what we call an

1130
00:44:19,829 --> 00:44:17,440
implementing arrangement

1131
00:44:21,270 --> 00:44:19,839
that we work at the government level um

1132
00:44:22,950 --> 00:44:21,280
and so we're working with our state

1133
00:44:24,710 --> 00:44:22,960
department to draft that

1134
00:44:27,030 --> 00:44:24,720
we submitted the draft they'll be

1135
00:44:28,790 --> 00:44:27,040
reviewing it giving us comments

1136
00:44:30,150 --> 00:44:28,800
once that's complete we'll turn it over

1137
00:44:31,510 --> 00:44:30,160
to roscosmos

1138
00:44:33,430 --> 00:44:31,520

and then they'll work it within their

1139
00:44:34,470 --> 00:44:33,440
government they'll get it back to us

1140
00:44:37,430 --> 00:44:34,480
we'll have probably

1141
00:44:38,150 --> 00:44:37,440
another iteration or so but all that

1142
00:44:40,870 --> 00:44:38,160
with the goal

1143
00:44:43,670 --> 00:44:40,880
of flying in late 2021 on each other's

1144
00:44:52,150 --> 00:44:46,950
okay the next question is from morgan is

1145
00:44:57,030 --> 00:44:55,030
hi um steve mentioned the other day that

1146
00:44:59,270 --> 00:44:57,040
crew one is launching on an f9 with

1147
00:45:01,109 --> 00:44:59,280
upgraded turbine wheels and copv

1148
00:45:03,190 --> 00:45:01,119
he um said that these upgrades have been

1149
00:45:04,550 --> 00:45:03,200
flowing on falcon 9's for years but that

1150
00:45:05,750 --> 00:45:04,560
this would be their first crew so i'm

1151
00:45:07,510 --> 00:45:05,760
just wondering

1152
00:45:09,349 --> 00:45:07,520
why did demo 2 launch with older

1153
00:45:12,470 --> 00:45:09,359
versions of those turbine wheels

1154
00:45:14,069 --> 00:45:12,480
and copd and also benji said that the

1155
00:45:15,829 --> 00:45:14,079
crew dragon vehicle is now more

1156
00:45:17,589 --> 00:45:15,839
robust to tolerate a wider range of

1157
00:45:18,550 --> 00:45:17,599
weather conditions shown so i'm just

1158
00:45:20,150 --> 00:45:18,560
wondering

1159
00:45:21,829 --> 00:45:20,160
what changes people referring to

1160
00:45:23,109 --> 00:45:21,839
specifically and how they make the

1161
00:45:26,390 --> 00:45:23,119
vehicle more robust

1162
00:45:29,829 --> 00:45:29,510
yeah i'll take that benji thanks let's

1163
00:45:32,630 --> 00:45:29,839

see

1164
00:45:33,670 --> 00:45:32,640
so we do have a few upgrades uh flying

1165
00:45:35,990 --> 00:45:33,680
on crew one and

1166
00:45:37,750 --> 00:45:36,000
one of the things we've been working uh

1167
00:45:39,109 --> 00:45:37,760
with spacex on is how do we continue to

1168
00:45:40,390 --> 00:45:39,119
evolve this vehicle how do we continue

1169
00:45:42,630 --> 00:45:40,400
to make it better

1170
00:45:45,349 --> 00:45:42,640
so uh the composite over at pressure

1171
00:45:47,990 --> 00:45:45,359
vessels on falcon 9

1172
00:45:49,190 --> 00:45:48,000
many of them have an upgraded liner that

1173
00:45:49,910 --> 00:45:49,200
makes that liner a little bit more

1174
00:45:53,030 --> 00:45:49,920
robust

1175
00:45:56,150 --> 00:45:53,040
spacex to improve that liner and and uh

1176
00:45:58,630 --> 00:45:56,160
will allow it to be used a little longer

1177
00:46:00,470 --> 00:45:58,640
the turbine wheels on this vehicle have

1178
00:46:02,710 --> 00:46:00,480
been upgraded

1179
00:46:05,190 --> 00:46:02,720
it's a pretty complicated process to

1180
00:46:08,470 --> 00:46:05,200
design a turbine wheel

1181
00:46:09,990 --> 00:46:08,480
wheels are prone to actually when you

1182
00:46:11,510 --> 00:46:10,000
get to a certain

1183
00:46:13,750 --> 00:46:11,520
setting of the throttle on the engine

1184
00:46:15,430 --> 00:46:13,760
you can have certain conditions set up

1185
00:46:16,950 --> 00:46:15,440
that are resonances and so these wheels

1186
00:46:18,790 --> 00:46:16,960
are a little bit more robust

1187
00:46:20,150 --> 00:46:18,800
to the kind of throttle profile that the

1188
00:46:21,670 --> 00:46:20,160

merlin engines fly

1189
00:46:23,349 --> 00:46:21,680
so we're happy to have that as a safety

1190
00:46:24,950 --> 00:46:23,359
upgrade and then

1191
00:46:26,470 --> 00:46:24,960
also for landing we've made some

1192
00:46:28,309 --> 00:46:26,480
improvements to the structure

1193
00:46:29,510 --> 00:46:28,319
so that we can handle a little bit more

1194
00:46:31,829 --> 00:46:29,520
wind uh

1195
00:46:33,910 --> 00:46:31,839
at the landing zone which gives us a few

1196
00:46:36,550 --> 00:46:33,920
more opportunities to land so

1197
00:46:36,950 --> 00:46:36,560
those are three upgrades on this vehicle

1198
00:46:38,390 --> 00:46:36,960
and

1199
00:46:40,829 --> 00:46:38,400
you'll continue to see upgrades with

1200
00:46:44,950 --> 00:46:40,839
crew 2 and future vehicles to improve

1201
00:46:49,510 --> 00:46:48,710
okay let's see i guess uh jackie wattles

1202
00:46:53,910 --> 00:46:49,520
cnn

1203
00:46:56,550 --> 00:46:53,920
are you out there jackie hey i sure am

1204
00:46:57,510 --> 00:46:56,560
thanks so much for doing this uh another

1205
00:46:59,589 --> 00:46:57,520
covered question

1206
00:47:00,550 --> 00:46:59,599
i i was curious if i could get some

1207
00:47:03,349 --> 00:47:00,560
insight um

1208
00:47:04,069 --> 00:47:03,359
into how the contract contact tracing

1209
00:47:05,910 --> 00:47:04,079
played out

1210
00:47:07,589 --> 00:47:05,920
who was in charge of it was it spacex or

1211
00:47:09,349 --> 00:47:07,599
nasa or a joint team

1212
00:47:10,710 --> 00:47:09,359
um and then i don't know if finji or

1213
00:47:13,510 --> 00:47:10,720

anyone else can speak to

1214
00:47:15,030 --> 00:47:13,520
as well like if you know there was

1215
00:47:15,990 --> 00:47:15,040
something to a rise in hawthorne at

1216
00:47:17,270 --> 00:47:16,000
mission control

1217
00:47:19,990 --> 00:47:17,280
you know how that might play out

1218
00:47:23,109 --> 00:47:20,000
logistically

1219
00:47:24,230 --> 00:47:23,119
sure sure um you know i think that the

1220
00:47:26,390 --> 00:47:24,240
way that we work

1221
00:47:27,829 --> 00:47:26,400
from a medical viewpoint with us in nasa

1222
00:47:29,510 --> 00:47:27,839
is that we have flight surgeons we

1223
00:47:30,390 --> 00:47:29,520
actually have spacex company flight

1224
00:47:33,910 --> 00:47:30,400
surgeons

1225
00:47:36,150 --> 00:47:33,920
and of course they have the entire

1226
00:47:37,270 --> 00:47:36,160
uh health and human medical um

1227
00:47:39,270 --> 00:47:37,280
directorate that

1228
00:47:40,870 --> 00:47:39,280
we all work very closely together and

1229
00:47:42,390 --> 00:47:40,880
our flight surgeons talk to the nasa

1230
00:47:43,589 --> 00:47:42,400
flight surgeons in fact ours have come

1231
00:47:46,150 --> 00:47:43,599
from nasa

1232
00:47:47,349 --> 00:47:46,160
um and and so they've worked out not

1233
00:47:49,430 --> 00:47:47,359
only following the

1234
00:47:51,030 --> 00:47:49,440
the uh health stabilization protocols

1235
00:47:51,670 --> 00:47:51,040
that we talked about that norm talked

1236
00:47:54,309 --> 00:47:51,680
about but

1237
00:47:55,910 --> 00:47:54,319
just also overall good practices

1238
00:47:57,589 --> 00:47:55,920

processes procedures making sure we're

1239
00:47:58,470 --> 00:47:57,599
following cdc guidelines local

1240
00:48:00,630 --> 00:47:58,480
guidelines

1241
00:48:02,390 --> 00:48:00,640
including with the contact tracing um

1242
00:48:03,349 --> 00:48:02,400
they've we've worked that you know these

1243
00:48:05,510 --> 00:48:03,359
are things that

1244
00:48:07,510 --> 00:48:05,520
while we'll do things on our side like

1245
00:48:10,309 --> 00:48:07,520
do the contact tracing ourselves for

1246
00:48:11,589 --> 00:48:10,319
how we're managing all of our staff we

1247
00:48:13,109 --> 00:48:11,599
provide that data and we

1248
00:48:14,790 --> 00:48:13,119
review that with nasa and we make sure

1249
00:48:16,309 --> 00:48:14,800
everybody's uh you know feeling really

1250
00:48:17,910 --> 00:48:16,319
good about where we're at

1251
00:48:19,910 --> 00:48:17,920
in terms of critical staff for example

1252
00:48:20,870 --> 00:48:19,920
like you asked at operations in

1253
00:48:22,470 --> 00:48:20,880
hawthorne

1254
00:48:24,870 --> 00:48:22,480
or here at the cape for example in our

1255
00:48:27,270 --> 00:48:24,880
in our launch control and firing rooms

1256
00:48:29,109 --> 00:48:27,280
we also have plans in place right we

1257
00:48:31,670 --> 00:48:29,119
have backup operators

1258
00:48:32,790 --> 00:48:31,680
our operators have also been at a

1259
00:48:35,270 --> 00:48:32,800
heightened level

1260
00:48:37,190 --> 00:48:35,280
of care they actually go into a type of

1261
00:48:39,910 --> 00:48:37,200
quarantine themselves

1262
00:48:41,030 --> 00:48:39,920
very limited public involvement and

1263
00:48:42,630 --> 00:48:41,040

access

1264
00:48:44,150 --> 00:48:42,640
different things that we do we do a lot

1265
00:48:45,750 --> 00:48:44,160
of temperature checks and screenings we

1266
00:48:47,430 --> 00:48:45,760
do a lot of tests

1267
00:48:48,790 --> 00:48:47,440
to ensure that all of our operators will

1268
00:48:50,069 --> 00:48:48,800
also be ready

1269
00:48:51,829 --> 00:48:50,079
for the launch and for the long-term

1270
00:48:53,589 --> 00:48:51,839
mission as well it's important to note

1271
00:48:55,990 --> 00:48:53,599
that all that great science that's going

1272
00:48:59,030 --> 00:48:56,000
to be going on on station

1273
00:49:00,230 --> 00:48:59,040
requires six months of work and that

1274
00:49:01,910 --> 00:49:00,240
means the dragon will be up

1275
00:49:03,670 --> 00:49:01,920
for six months so we'll be monitoring

1276
00:49:05,510 --> 00:49:03,680
dragon systems

1277
00:49:07,510 --> 00:49:05,520
and and of course just like how nasa is

1278
00:49:08,630 --> 00:49:07,520
continuing to fly iss

1279
00:49:10,790 --> 00:49:08,640
we need to make sure all of these

1280
00:49:12,870 --> 00:49:10,800
critical personnel are healthy for the

1281
00:49:15,030 --> 00:49:12,880
long haul

1282
00:49:16,390 --> 00:49:15,040
i'll just follow on on the contact

1283
00:49:19,109 --> 00:49:16,400
racing

1284
00:49:20,069 --> 00:49:19,119
uh if there's any thought or any concern

1285
00:49:22,390 --> 00:49:20,079
of compromise

1286
00:49:23,990 --> 00:49:22,400
uh to the flight crew the nasa team will

1287
00:49:25,349 --> 00:49:24,000
be doing that contact tracing and

1288
00:49:26,309 --> 00:49:25,359

following back and of course working

1289
00:49:28,549 --> 00:49:26,319
with our

1290
00:49:30,950 --> 00:49:28,559
our partner spacex to to do that trace

1291
00:49:32,870 --> 00:49:30,960
or wherever or whatever contractor

1292
00:49:34,790 --> 00:49:32,880
or nasa facility that might have come

1293
00:49:36,870 --> 00:49:34,800
from and we will trace that back and

1294
00:49:39,829 --> 00:49:36,880
find out the impact

1295
00:49:41,270 --> 00:49:39,839
for the specific teams uh if they've not

1296
00:49:42,549 --> 00:49:41,280
had contact with the crew we don't

1297
00:49:44,470 --> 00:49:42,559
believe they've had contact with the

1298
00:49:48,230 --> 00:49:44,480
crew that's left to you know

1299
00:49:49,910 --> 00:49:48,240
nasa or whatever specific contractor

1300
00:49:51,589 --> 00:49:49,920
to do those contact tracings and as

1301
00:49:52,390 --> 00:49:51,599
benji said it's there's overarching

1302
00:49:55,030 --> 00:49:52,400
guidelines

1303
00:49:57,030 --> 00:49:55,040
it's all under the auspice of the health

1304
00:49:58,309 --> 00:49:57,040
stabilization program

1305
00:50:00,150 --> 00:49:58,319
and again all the guidelines that are

1306
00:50:04,150 --> 00:50:00,160
set forth so it's very rigid

1307
00:50:05,190 --> 00:50:04,160
and it's very thorough okay next up is

1308
00:50:18,230 --> 00:50:05,200
kenneth chang

1309
00:50:27,589 --> 00:50:21,510
okay let's see who's next in the queue

1310
00:50:30,950 --> 00:50:27,599
just waiting for that update um

1311
00:50:35,109 --> 00:50:33,349
susie from business insider is that

1312
00:50:38,309 --> 00:50:35,119
right

1313
00:50:41,349 --> 00:50:38,319

yup thank you um

1314
00:50:42,870 --> 00:50:41,359
so my question is uh what are the launch

1315
00:50:44,710 --> 00:50:42,880
dates be on sunday and what are the most

1316
00:50:46,150 --> 00:50:44,720
ideal launch dates be on sunday if you

1317
00:50:47,430 --> 00:50:46,160
have to delay again

1318
00:50:49,430 --> 00:50:47,440
and what do the sea and weather

1319
00:50:50,790 --> 00:50:49,440
conditions at the splashdown sites look

1320
00:50:53,750 --> 00:50:50,800
like for sunday in terms of what's

1321
00:50:57,109 --> 00:50:53,760
required for emergency recovery

1322
00:50:58,950 --> 00:50:57,119
yeah i can take that question so uh

1323
00:51:02,230 --> 00:50:58,960
we have a series of launch dates coming

1324
00:51:05,190 --> 00:51:02,240
up uh obviously sunday is our prime date

1325
00:51:06,950 --> 00:51:05,200
um and then we would stand down on

1326
00:51:10,470 --> 00:51:06,960
monday

1327
00:51:13,349 --> 00:51:10,480
the iss

1328
00:51:14,390 --> 00:51:13,359
and so that's not a good day to go uh up

1329
00:51:17,829 --> 00:51:14,400
in rendezvous and

1330
00:51:19,190 --> 00:51:17,839
dock to uh the space station uh tuesday

1331
00:51:21,510 --> 00:51:19,200
also is not a good day

1332
00:51:22,950 --> 00:51:21,520
it's a little longer rendezvous profile

1333
00:51:25,430 --> 00:51:22,960
and so we really don't want to take that

1334
00:51:27,190 --> 00:51:25,440
runway profile

1335
00:51:29,109 --> 00:51:27,200
so the next opportunity would be

1336
00:51:31,430 --> 00:51:29,119
wednesday

1337
00:51:32,549 --> 00:51:31,440
thursday friday in the middle of next

1338
00:51:34,390 --> 00:51:32,559

week

1339
00:51:35,990 --> 00:51:34,400
right now for sunday the weather looks

1340
00:51:39,750 --> 00:51:36,000
looks pretty good down in this

1341
00:51:42,069 --> 00:51:39,760
along the coast what we do is we protect

1342
00:51:43,750 --> 00:51:42,079
for an escape all the way from the

1343
00:51:44,390 --> 00:51:43,760
launch pad all the way up into orbit and

1344
00:51:49,109 --> 00:51:44,400
so

1345
00:51:50,549 --> 00:51:49,119
now those look pretty good for uh

1346
00:51:52,390 --> 00:51:50,559
for monday we haven't really looked that

1347
00:51:53,670 --> 00:51:52,400
far out to wednesday in the middle of

1348
00:51:54,790 --> 00:51:53,680
the week but right now the conditions

1349
00:51:57,190 --> 00:51:54,800
look good

1350
00:51:59,030 --> 00:51:57,200
not only for the uh launch abort weather

1351
00:52:00,470 --> 00:51:59,040
but also for recovery weather

1352
00:52:02,150 --> 00:52:00,480
for the drone ship which is important to

1353
00:52:03,589 --> 00:52:02,160
us as well so

1354
00:52:05,589 --> 00:52:03,599
we're pretty well set up for sunday and

1355
00:52:06,950 --> 00:52:05,599
as arlene said we'll just have to watch

1356
00:52:09,190 --> 00:52:06,960
a little bit the local weather here as

1357
00:52:11,670 --> 00:52:09,200
this front comes through do we get

1358
00:52:13,829 --> 00:52:11,680
some precip or some thunderstorms along

1359
00:52:15,829 --> 00:52:13,839
that front line so

1360
00:52:18,790 --> 00:52:15,839
okay thanks steve thanks everybody

1361
00:52:20,790 --> 00:52:18,800
that's all the questions that we had

1362
00:52:22,150 --> 00:52:20,800
let's see that leads us to sunday what

1363
00:52:24,470 --> 00:52:22,160

everybody's talking about the

1364
00:52:27,670 --> 00:52:24,480
preparations for launch

1365
00:52:29,190 --> 00:52:27,680
are ongoing obviously with our nasa tv

1366
00:52:32,069 --> 00:52:29,200
coverage

1367
00:52:32,630 --> 00:52:32,079
is going to continue and start at 3 15

1368
00:52:34,870 --> 00:52:32,640
p.m

1369
00:52:36,790 --> 00:52:34,880
eastern time on sunday we have a

1370
00:52:38,950 --> 00:52:36,800
comprehensive

1371
00:52:40,470 --> 00:52:38,960
broadcast planned for you guys so make

1372
00:52:42,390 --> 00:52:40,480
sure that you tune in for that

1373
00:52:45,190 --> 00:52:42,400
of course the launch is mentioned is

1374
00:52:48,309 --> 00:52:45,200
targeted for 7 27 pm

1375
00:52:50,390 --> 00:52:48,319
eastern time from launch complex 39a

1376
00:52:51,750 --> 00:52:50,400
the starting point for crew one's

1377
00:52:54,069 --> 00:52:51,760
adventure if you will to the

1378
00:52:56,309 --> 00:52:54,079
international space station

1379
00:52:57,910 --> 00:52:56,319
with that launch sunday evening crew

1380
00:53:00,069 --> 00:52:57,920
dragon resilience

1381
00:53:02,549 --> 00:53:00,079
and its four astronauts are scheduled to

1382
00:53:05,670 --> 00:53:02,559
dock at about 11 p.m as you heard

1383
00:53:07,430 --> 00:53:05,680
on monday as well so uh thanks to you

1384
00:53:10,710 --> 00:53:07,440
guys thanks to everybody

1385
00:53:13,109 --> 00:53:10,720
tuning in today and uh one reminder just

1386
00:53:36,470 --> 00:53:13,119
keep practicing social distancing