1
00:00:06,309 --> 00:00:03,350
good afternoon everyone and welcome to

2
00:00:07,829 --> 00:00:06,319
today's space x3 status news conference

3
00:00:09,990 --> 00:00:07,839
we are pleased today to be joined by

4
00:00:12,150 --> 00:00:10,000
telephone from houston the johnson space

5
00:00:14,910 --> 00:00:12,160
center mr mike safradini the

6
00:00:18,150 --> 00:00:14,920
international space station program

7
00:00:21,189 --> 00:00:18,160
manager here in florida

8
00:00:24,950 --> 00:00:21,199
mr hans koenigsmann vice president of

9
00:00:29,910 --> 00:00:27,750
and mike mcelinen launch weather officer

10
00:00:31,029 --> 00:00:29,920
from the u.s air force 45th weather

11
00:00:32,950 --> 00:00:31,039
squadron

12
00:00:34,229 --> 00:00:32,960
and we will begin with opening comments

13
00:00:36,389 --> 00:00:34,239

from our presenters and then we'll be

14
00:00:39,670 --> 00:00:36,399
happy to take questions after that we'll

15
00:00:42,389 --> 00:00:39,680
start with mr suffradini mike

16
00:00:45,190 --> 00:00:42,399
thank you mike good afternoon everyone

17
00:00:47,430 --> 00:00:45,200
this morning we concluded uh our mission

18
00:00:49,110 --> 00:00:47,440
management team meeting uh in

19
00:00:52,549 --> 00:00:49,120
preparation for

20
00:00:54,310 --> 00:00:52,559
the spacex 3 launch

21
00:00:57,029 --> 00:00:54,320
of course we had already determined that

22
00:00:59,029 --> 00:00:57,039
we were ready for the launch last week

23
00:01:01,349 --> 00:00:59,039
early last week however

24
00:01:04,789 --> 00:01:01,359
friday afternoon

25
00:01:06,870 --> 00:01:04,799
one of our external mdms failed we call

26
00:01:09,590 --> 00:01:06,880
it ext2

27
00:01:11,590 --> 00:01:09,600
it controls many of the functions on

28
00:01:13,990 --> 00:01:11,600
what we refer to as the inboard portion

29
00:01:16,390 --> 00:01:14,000
of the truss everything from the solar

30
00:01:19,030 --> 00:01:16,400
alpha rotary joints the big

31
00:01:22,070 --> 00:01:19,040
solar ray joints inboard

32
00:01:24,469 --> 00:01:22,080
this includes the thermal cooling system

33
00:01:27,030 --> 00:01:24,479
the the solar alpha joint itself the

34
00:01:28,230 --> 00:01:27,040
radiators the mobile transporter and a

35
00:01:31,190 --> 00:01:28,240
number of other

36
00:01:34,789 --> 00:01:31,200
uh systems that we had insight into

37
00:01:37,350 --> 00:01:34,799
so given this uh particular failure of

38
00:01:39,670 --> 00:01:37,360

this mdm which uh per our launch commit

39
00:01:42,310 --> 00:01:39,680
criteria is required

40
00:01:43,990 --> 00:01:42,320
prior to launch of any of the vehicles

41
00:01:46,069 --> 00:01:44,000
that we need to birth

42
00:01:47,749 --> 00:01:46,079
the team had to go look at all the

43
00:01:49,270 --> 00:01:47,759
scenarios and see if we could figure out

44
00:01:51,270 --> 00:01:49,280
a way to

45
00:01:53,830 --> 00:01:51,280
to fly the spacex vehicle of course

46
00:01:55,990 --> 00:01:53,840
spacex is carrying on board a number of

47
00:01:58,469 --> 00:01:56,000
critical systems including

48
00:02:00,389 --> 00:01:58,479
a new spacesuit

49
00:02:02,069 --> 00:02:00,399
components to fix the existing

50
00:02:04,550 --> 00:02:02,079
spacesuits

51
00:02:06,950 --> 00:02:04,560
a couple of very critical

52
00:02:08,869 --> 00:02:06,960
research experiments in the trunk

53
00:02:11,190 --> 00:02:08,879
and quite a beaut quite a bit of

54
00:02:12,150 --> 00:02:11,200
logistics uh for our crew members on

55
00:02:18,550 --> 00:02:12,160
board

56
00:02:21,110 --> 00:02:18,560
as soon as we practically can

57
00:02:23,030 --> 00:02:21,120
the team has spent the last two days

58
00:02:24,869 --> 00:02:23,040
looking at options to recover from this

59
00:02:27,190 --> 00:02:24,879
scenario

60
00:02:29,830 --> 00:02:27,200
it turns out that

61
00:02:32,150 --> 00:02:29,840
the biggest driver for us is the

62
00:02:34,309 --> 00:02:32,160
positioning of the solar rays

63
00:02:36,949 --> 00:02:34,319

as we look to the next failure which is

64
00:02:39,350 --> 00:02:36,959
really what the concern is

65
00:02:42,150 --> 00:02:39,360
this box is completely redundant with

66
00:02:43,750 --> 00:02:42,160
the primary ext1 box so today we have

67
00:02:45,110 --> 00:02:43,760
full functionality

68
00:02:47,589 --> 00:02:45,120
however

69
00:02:49,670 --> 00:02:47,599
our our job is to convince ourselves

70
00:02:50,949 --> 00:02:49,680
that given the next value we could still

71
00:02:53,910 --> 00:02:50,959
accept

72
00:02:55,910 --> 00:02:53,920
the spacex spacecraft

73
00:02:57,910 --> 00:02:55,920
and so the team has worked that

74
00:03:01,030 --> 00:02:57,920
as i started to say earlier the biggest

75
00:03:03,190 --> 00:03:01,040
driver was the the solar arrays

76
00:03:05,350 --> 00:03:03,200
you know whenever a vehicle approaches

77
00:03:07,110 --> 00:03:05,360
we have to configure the arrays

78
00:03:09,350 --> 00:03:07,120
uh such that the plumbing from the

79
00:03:11,910 --> 00:03:09,360
thrusters as the spacecraft approaches

80
00:03:13,750 --> 00:03:11,920
doesn't put unnecessary loads on the

81
00:03:15,509 --> 00:03:13,760
on the solar rays

82
00:03:18,390 --> 00:03:15,519
but we also have to have the solar rays

83
00:03:20,630 --> 00:03:18,400
pointed so they provide uh sufficient

84
00:03:23,110 --> 00:03:20,640
power to operate the station and so

85
00:03:25,910 --> 00:03:23,120
there's always that uh that trade we

86
00:03:27,830 --> 00:03:25,920
have to make when any vehicle arrives

87
00:03:30,470 --> 00:03:27,840
of course in this case we had to also

88
00:03:33,030 --> 00:03:30,480

protect ourselves for power uh all the

89
00:03:35,589 --> 00:03:33,040
way from launch of the of the spacecraft

90
00:03:38,149 --> 00:03:35,599
to the iss and that is indeed what the

91
00:03:39,830 --> 00:03:38,159
team was able to find out fortunately we

92
00:03:43,030 --> 00:03:39,840
were in a lower beta

93
00:03:44,710 --> 00:03:43,040
angle over the next couple three weeks

94
00:03:46,309 --> 00:03:44,720
and so that provided us an opportunity

95
00:03:48,229 --> 00:03:46,319
to find a solar ray position that will

96
00:03:51,110 --> 00:03:48,239
protect us

97
00:03:52,630 --> 00:03:51,120
and in addition to that uh the mobile

98
00:03:54,630 --> 00:03:52,640
transporter

99
00:03:57,589 --> 00:03:54,640
needs to be at work site two to begin

100
00:04:00,390 --> 00:03:57,599
the trunk ops we can grapple we will

101
00:04:02,309 --> 00:04:00,400
grapple the dragon from node 2 which is

102
00:04:04,710 --> 00:04:02,319
not affected by this but

103
00:04:05,990 --> 00:04:04,720
shortly after the spacecraft arrives we

104
00:04:08,070 --> 00:04:06,000
have to get on with removing the

105
00:04:10,550 --> 00:04:08,080
payloads from the trunk the first place

106
00:04:12,470 --> 00:04:10,560
we have to be is to have the mt out out

107
00:04:13,990 --> 00:04:12,480
at work site 2.

108
00:04:16,229 --> 00:04:14,000
in addition to that it's currently at

109
00:04:20,550 --> 00:04:16,239
work site four and in the way of any eva

110
00:04:23,189 --> 00:04:20,560
to replace uh the ex2 ext2 mdm

111
00:04:25,270 --> 00:04:23,199
and so uh we will we will also move that

112
00:04:29,270 --> 00:04:25,280
in preparations for the launch

113
00:04:30,310 --> 00:04:29,280

uh so so the plan going forward is um

114
00:04:31,189 --> 00:04:30,320
we will

115
00:04:32,950 --> 00:04:31,199
uh

116
00:04:35,270 --> 00:04:32,960
move the solar rays right after launch

117
00:04:38,070 --> 00:04:35,280
to a position and fix them there

118
00:04:39,909 --> 00:04:38,080
um and then if anything occurs between

119
00:04:41,990 --> 00:04:39,919
launch and um

120
00:04:43,350 --> 00:04:42,000
and birthing we will still be able to

121
00:04:45,670 --> 00:04:43,360
accept the um

122
00:04:47,430 --> 00:04:45,680
this dragon spacecraft so in that

123
00:04:49,909 --> 00:04:47,440
respect we have recovered essentially

124
00:04:52,310 --> 00:04:49,919
the redundancy the lcc is protecting for

125
00:04:54,710 --> 00:04:52,320
and we're good to go

126
00:04:56,629 --> 00:04:54,720
in addition to that then we have to make

127
00:04:58,790 --> 00:04:56,639
plans to go ahead and replace this mdm

128
00:05:01,189 --> 00:04:58,800
and we should do it relatively

129
00:05:02,950 --> 00:05:01,199
quickly whenever we can safely do that

130
00:05:04,070 --> 00:05:02,960
the teams have been thinking about what

131
00:05:06,070 --> 00:05:04,080
suits

132
00:05:07,029 --> 00:05:06,080
that we would use

133
00:05:09,990 --> 00:05:07,039
and

134
00:05:11,909 --> 00:05:10,000
the plan now is to use suit 3011 which

135
00:05:13,270 --> 00:05:11,919
was used on previous

136
00:05:15,270 --> 00:05:13,280
eba and

137
00:05:16,790 --> 00:05:15,280
and has a new fan pump set it's only

138
00:05:19,029 --> 00:05:16,800

been exposed to

139
00:05:20,189 --> 00:05:19,039
a couple of ebas

140
00:05:22,710 --> 00:05:20,199
and

141
00:05:25,749 --> 00:05:22,720
3005 which will get a new

142
00:05:27,029 --> 00:05:25,759
fan pump set prior to the start of the

143
00:05:29,749 --> 00:05:27,039
eva

144
00:05:31,830 --> 00:05:29,759
and just to quickly review

145
00:05:33,909 --> 00:05:31,840
the issue with the suits

146
00:05:35,990 --> 00:05:33,919
so that it kind of makes sense

147
00:05:38,230 --> 00:05:36,000
as you know it turns out the result of

148
00:05:40,469 --> 00:05:38,240
the anomaly the cause excuse me the

149
00:05:43,110 --> 00:05:40,479
cause of the anomaly

150
00:05:45,270 --> 00:05:43,120
was the result of contamination that was

151
00:05:46,710 --> 00:05:45,280
introduced by filters that were

152
00:05:48,070 --> 00:05:46,720
essentially

153
00:05:50,390 --> 00:05:48,080
used to

154
00:05:52,950 --> 00:05:50,400
meant to clean and scrub the water loops

155
00:05:56,230 --> 00:05:52,960
for us those

156
00:05:58,390 --> 00:05:56,240
introduced a large amount of silica into

157
00:06:02,150 --> 00:05:58,400
the system

158
00:06:04,710 --> 00:06:02,160
and that silica eventually coagulates

159
00:06:05,510 --> 00:06:04,720
in the area of the of the fan pump sep

160
00:06:06,710 --> 00:06:05,520
and

161
00:06:09,189 --> 00:06:06,720
after

162
00:06:11,350 --> 00:06:09,199
many uses it eventually can build up to

163
00:06:12,870 --> 00:06:11,360

the point where it plugs the holes and

164
00:06:14,550 --> 00:06:12,880
you can't separate the water from the

165
00:06:16,230 --> 00:06:14,560
air and the water then finds its way

166
00:06:18,710 --> 00:06:16,240
into the suit

167
00:06:20,870 --> 00:06:18,720
prior to the last contingency eba we had

168
00:06:23,189 --> 00:06:20,880
to do we changed out the fan pump sep on

169
00:06:25,029 --> 00:06:23,199
3011 which was the failed suit and it

170
00:06:26,710 --> 00:06:25,039
worked fine

171
00:06:28,469 --> 00:06:26,720
and we'll get a new fan pump step in

172
00:06:30,309 --> 00:06:28,479
3005.

173
00:06:33,110 --> 00:06:30,319
in addition to that we've got new

174
00:06:34,710 --> 00:06:33,120
filters on board that we know are clean

175
00:06:36,710 --> 00:06:34,720
and in addition to that

176
00:06:39,670 --> 00:06:36,720
we have over the last week and we'll

177
00:06:41,909 --> 00:06:39,680
we'll finish it up early next week

178
00:06:43,830 --> 00:06:41,919
we are flush we've flushed the cooling

179
00:06:46,710 --> 00:06:43,840
lines and replaced the water

180
00:06:49,670 --> 00:06:46,720
and in both the cooling lines

181
00:06:52,070 --> 00:06:49,680
in the uh station system itself

182
00:06:55,350 --> 00:06:52,080
and um and all three of the suits so

183
00:06:57,270 --> 00:06:55,360
they have fresh water um with uh that

184
00:06:58,870 --> 00:06:57,280
have been purged to uh

185
00:07:00,710 --> 00:06:58,880
eliminate well

186
00:07:02,550 --> 00:07:00,720
reduce significantly the amount of

187
00:07:04,070 --> 00:07:02,560
silica in the water

188
00:07:05,990 --> 00:07:04,080

today

189
00:07:07,909 --> 00:07:06,000
and so we believe we're in a very good

190
00:07:11,029 --> 00:07:07,919
posture for the eda

191
00:07:13,510 --> 00:07:11,039
uh if for any reason we have a problem

192
00:07:16,469 --> 00:07:13,520
uh changing out the fan pumps up on on

193
00:07:18,790 --> 00:07:16,479
3005 we have a new suit that's coming up

194
00:07:19,589 --> 00:07:18,800
uh that requires some checkout and some

195
00:07:21,510 --> 00:07:19,599
more

196
00:07:23,749 --> 00:07:21,520
work to have it ready to go but it's a

197
00:07:25,909 --> 00:07:23,759
possibility and we have a new fan pump

198
00:07:28,309 --> 00:07:25,919
set coming up on the dragon spacecraft

199
00:07:31,510 --> 00:07:28,319
as well which we could use and install

200
00:07:34,390 --> 00:07:31,520
in in 3010 another suit that's on orbit

201
00:07:36,950 --> 00:07:34,400
to have it ready so we have many options

202
00:07:39,270 --> 00:07:36,960
however in order to preserve the

203
00:07:40,870 --> 00:07:39,280
opportunity to do the eba

204
00:07:42,629 --> 00:07:40,880
as soon as we can

205
00:07:44,950 --> 00:07:42,639
after the dragon arrives we're going to

206
00:07:46,629 --> 00:07:44,960
go ahead and prep 3005

207
00:07:48,710 --> 00:07:46,639
and the team believes

208
00:07:51,670 --> 00:07:48,720
the best suit combination for the eba

209
00:07:52,469 --> 00:07:51,680
would be 3005 with the new fan pump set

210
00:07:55,510 --> 00:07:52,479
and

211
00:07:56,869 --> 00:07:55,520
suit

212
00:07:59,909 --> 00:07:56,879
so with that

213
00:08:01,749 --> 00:07:59,919

the team concluded uh the mmt with a go

214
00:08:04,629 --> 00:08:01,759
for uh spacex3

215
00:08:07,270 --> 00:08:04,639
a go to move the mt to worksite 2 this

216
00:08:08,309 --> 00:08:07,280
afternoon at about 3 o'clock local time

217
00:08:12,469 --> 00:08:08,319
and

218
00:08:13,990 --> 00:08:12,479
angles on board

219
00:08:16,710 --> 00:08:14,000
so that we can protect ourselves for the

220
00:08:18,950 --> 00:08:16,720
next worst failure should it occur

221
00:08:20,230 --> 00:08:18,960
and the and the teams are marching to

222
00:08:22,309 --> 00:08:20,240
that direction

223
00:08:24,550 --> 00:08:22,319
and that's uh that concludes my opening

224
00:08:27,189 --> 00:08:24,560
comments

225
00:08:30,790 --> 00:08:27,199
okay very good thank you hans

226
00:08:33,269 --> 00:08:30,800
yeah um thank you um we are i took it uh

227
00:08:34,070 --> 00:08:33,279
we are at a really good spot too we are

228
00:08:35,589 --> 00:08:34,080
um

229
00:08:38,310 --> 00:08:35,599
worked very hard over the last couple of

230
00:08:40,870 --> 00:08:38,320
weeks to to get ready to launch the

231
00:08:43,190 --> 00:08:40,880
launch is currently scheduled for um

232
00:08:45,269 --> 00:08:43,200
4 58 on monday

233
00:08:46,630 --> 00:08:45,279
uh 44 seconds

234
00:08:48,790 --> 00:08:46,640
and uh

235
00:08:50,310 --> 00:08:48,800
and the the the reason the reason this

236
00:08:51,990 --> 00:08:50,320
is so so precise is that the launch

237
00:08:53,350 --> 00:08:52,000
window basically is instantaneous that

238
00:08:54,630 --> 00:08:53,360

is

239
00:08:56,389 --> 00:08:54,640
the same as it was for the shuttle

240
00:08:58,389 --> 00:08:56,399
basically but um

241
00:09:01,829 --> 00:08:58,399
the goal is to catch the plane that the

242
00:09:03,190 --> 00:09:01,839
uh the iss flies in and then um chase it

243
00:09:05,350 --> 00:09:03,200
and and uh

244
00:09:07,269 --> 00:09:05,360
perform the rendezvous i do want to give

245
00:09:10,310 --> 00:09:07,279
you a little bit of a introduction into

246
00:09:13,110 --> 00:09:10,320
the timeline when we lived off we have

247
00:09:16,389 --> 00:09:13,120
the first stage of falcon 9 burning for

248
00:09:18,150 --> 00:09:16,399
about 2 minutes and 40 seconds

249
00:09:19,430 --> 00:09:18,160
then we have main engine cut down

250
00:09:22,630 --> 00:09:19,440
shutdown

251
00:09:24,310 --> 00:09:22,640
and followed by a stage separation about

252
00:09:26,470 --> 00:09:24,320
three and a half seconds later and

253
00:09:29,269 --> 00:09:26,480
followed by a second stage ignition

254
00:09:30,150 --> 00:09:29,279
about seven and a half seconds later

255
00:09:32,870 --> 00:09:30,160
the

256
00:09:34,870 --> 00:09:32,880
second stage engine burns for a total of

257
00:09:37,509 --> 00:09:34,880
close to seven minutes

258
00:09:39,269 --> 00:09:37,519
about 40 seconds into the second second

259
00:09:40,710 --> 00:09:39,279
stage flight it will deploy the nose

260
00:09:41,990 --> 00:09:40,720
cone

261
00:09:44,230 --> 00:09:42,000
you might be able to catch this on the

262
00:09:45,829 --> 00:09:44,240
video you got to look at the far

263
00:09:48,150 --> 00:09:45,839

right or left corner i forgot which one

264
00:09:49,430 --> 00:09:48,160
it is but it's difficult to see but you

265
00:09:51,350 --> 00:09:49,440
can see it

266
00:09:52,150 --> 00:09:51,360
and

267
00:09:53,269 --> 00:09:52,160
then

268
00:09:54,389 --> 00:09:53,279
again

269
00:09:56,470 --> 00:09:54,399
about nine

270
00:09:59,190 --> 00:09:56,480
nine minutes 40 seconds after lift off

271
00:10:02,710 --> 00:09:59,200
the second stage engine will shut down

272
00:10:04,470 --> 00:10:02,720
and the vehicle is in a 325 by 325

273
00:10:06,550 --> 00:10:04,480
basically essentially

274
00:10:08,550 --> 00:10:06,560
circular orbit

275
00:10:09,990 --> 00:10:08,560
with 51

276
00:10:11,910 --> 00:10:10,000
i forgot the exact number i think it's

277
00:10:14,069 --> 00:10:11,920
five four fifty one point five four

278
00:10:16,389 --> 00:10:14,079
degree inclination exactly uh the same

279
00:10:19,670 --> 00:10:16,399
as the space station

280
00:10:22,069 --> 00:10:19,680
it's a deploying dragon about 35 seconds

281
00:10:24,150 --> 00:10:22,079
after second stage shutdown

282
00:10:26,949 --> 00:10:24,160
uh dragon will

283
00:10:29,269 --> 00:10:26,959
move away from the second stage

284
00:10:32,630 --> 00:10:29,279
the second still will perform a maneuver

285
00:10:33,590 --> 00:10:32,640
to get further away from dragon dragon

286
00:10:36,470 --> 00:10:33,600
will

287
00:10:37,910 --> 00:10:36,480
deploy the solar arrays there's fairings

288
00:10:39,590 --> 00:10:37,920

over it and

289
00:10:41,829 --> 00:10:39,600
when we deploy those fairings about two

290
00:10:44,550 --> 00:10:41,839
minutes into flight

291
00:10:46,949 --> 00:10:44,560
you can see the solar arrays coming out

292
00:10:48,790 --> 00:10:46,959
we have a video link to confirm that

293
00:10:51,269 --> 00:10:48,800
and from then on the mission is

294
00:10:53,750 --> 00:10:51,279
basically handed over to our mission

295
00:10:55,910 --> 00:10:53,760
control in hawthorne

296
00:10:58,470 --> 00:10:55,920
the second stage will continue to

297
00:11:01,990 --> 00:10:58,480
perform some secondary

298
00:11:04,470 --> 00:11:02,000
objectives it will deploy peapods

299
00:11:06,710 --> 00:11:04,480
in total there are four peoples are

300
00:11:07,910 --> 00:11:06,720
these canisters that contain small

301
00:11:10,470 --> 00:11:07,920
satellites

302
00:11:13,350 --> 00:11:10,480
there's four of them on board

303
00:11:15,350 --> 00:11:13,360
and they contain a total of

304
00:11:17,750 --> 00:11:15,360
well three of them contain one satellite

305
00:11:19,590 --> 00:11:17,760
and one of them contains two satellites

306
00:11:21,670 --> 00:11:19,600
and then one of the satellites actually

307
00:11:24,230 --> 00:11:21,680
contains very small

308
00:11:26,630 --> 00:11:24,240
satellites called called basically femto

309
00:11:27,670 --> 00:11:26,640
satellites they are like printed circuit

310
00:11:32,310 --> 00:11:27,680
boards

311
00:11:33,430 --> 00:11:32,320
and i believe the number was 141 or 101.

312
00:11:34,949 --> 00:11:33,440
um

313
00:11:36,870 --> 00:11:34,959

these are very small satellites

314
00:11:38,710 --> 00:11:36,880
basically they they will

315
00:11:40,790 --> 00:11:38,720
be deployed on command and the the

316
00:11:43,509 --> 00:11:40,800
reason it's on a special command is so

317
00:11:44,470 --> 00:11:43,519
that they don't uh spread debris in the

318
00:11:46,310 --> 00:11:44,480
orbit

319
00:11:47,829 --> 00:11:46,320
so it's going to be a while after you

320
00:11:49,350 --> 00:11:47,839
know after

321
00:11:51,590 --> 00:11:49,360
dragon is gone and

322
00:11:53,509 --> 00:11:51,600
second stage is gone

323
00:11:55,750 --> 00:11:53,519
so um moving on dragon dragon will

324
00:11:58,310 --> 00:11:55,760
perform maneuvers to basically get to a

325
00:11:59,430 --> 00:11:58,320
higher orbit and to to be closer to the

326
00:12:02,069 --> 00:11:59,440
station

327
00:12:03,350 --> 00:12:02,079
um at about 10 kilometers out

328
00:12:05,110 --> 00:12:03,360
under the station it will perform

329
00:12:08,150 --> 00:12:05,120
proximity operations

330
00:12:11,030 --> 00:12:08,160
and that is a joint uh operation between

331
00:12:13,670 --> 00:12:11,040
spacex and hawthorne and

332
00:12:14,790 --> 00:12:13,680
the iss team in in houston it's very

333
00:12:15,990 --> 00:12:14,800
exciting

334
00:12:18,870 --> 00:12:16,000
and

335
00:12:20,069 --> 00:12:18,880
we we will see a um

336
00:13:36,870 --> 00:12:20,079
a

337
00:13:38,949 --> 00:13:36,880
i think it's going to be slow enough

338
00:13:41,269 --> 00:13:38,959

that it's not going to impact the launch

339
00:13:43,670 --> 00:13:41,279
if we have the forecast up

340
00:13:45,350 --> 00:13:43,680
for the forecast for launch

341
00:13:46,710 --> 00:13:45,360
again with that frontal boundary moving

342
00:13:48,870 --> 00:13:46,720
in from the west i think we're going to

343
00:13:50,150 --> 00:13:48,880
have some instability

344
00:13:51,430 --> 00:13:50,160
greater than we have had the last couple

345
00:13:53,030 --> 00:13:51,440
days we've only seen small cumulus

346
00:13:55,350 --> 00:13:53,040
clouds and that's going to allow the

347
00:13:57,910 --> 00:13:55,360
thunderstorms to uh perhaps grow in the

348
00:13:59,269 --> 00:13:57,920
central part of the uh florida and with

349
00:14:00,870 --> 00:13:59,279
our westerly winds aloft that could

350
00:14:03,430 --> 00:14:00,880
bring some those upper-level clouds back

351
00:14:05,269 --> 00:14:03,440
over so those are a threat to launch and

352
00:14:07,430 --> 00:14:05,279
so the main concern is those anvil

353
00:14:10,389 --> 00:14:07,440
clouds streaming back over the east side

354
00:14:12,629 --> 00:14:10,399
of florida over the launch pad

355
00:14:14,389 --> 00:14:12,639
for our probability of violation at 10

356
00:14:16,550 --> 00:14:14,399
percent and that's the main threat

357
00:14:18,310 --> 00:14:16,560
otherwise weather looks pretty good warm

358
00:14:19,750 --> 00:14:18,320
temperatures remain and again we'll

359
00:14:21,030 --> 00:14:19,760
watch those increasing clouds through

360
00:14:22,470 --> 00:14:21,040
the countdown

361
00:14:25,990 --> 00:14:22,480
if we were delay

362
00:14:27,350 --> 00:14:26,000
through to friday the next opportunity

363
00:14:28,629 --> 00:14:27,360

that frontal boundary unlike the last

364
00:14:30,470 --> 00:14:28,639
one is not going to go all the way down

365
00:14:31,910 --> 00:14:30,480
to the straits of florida into the keys

366
00:14:34,550 --> 00:14:31,920
it's going to kind of linger in central

367
00:14:36,470 --> 00:14:34,560
florida area and that's going to give us

368
00:14:39,189 --> 00:14:36,480
thick clouds off and on through the last

369
00:14:41,910 --> 00:14:39,199
next four or five days and periods of

370
00:14:44,069 --> 00:14:41,920
rain so not quite as good forecast for

371
00:14:45,829 --> 00:14:44,079
friday fridays the 10th was a 60

372
00:14:47,750 --> 00:14:45,839
probability violation flight

373
00:14:50,470 --> 00:14:47,760
precipitation with those showers as well

374
00:14:52,790 --> 00:14:50,480
as thick clouds are all a possibility so

375
00:14:54,389 --> 00:14:52,800
again 60 chance for friday

376
00:14:57,189 --> 00:14:54,399
but it looks like overall a fairly

377
00:14:59,430 --> 00:14:57,199
decent shot on on monday

378
00:15:01,509 --> 00:14:59,440
thank you very much okay mike thank you

379
00:15:03,509 --> 00:15:01,519
now we're going to take questions we're

380
00:15:05,269 --> 00:15:03,519
pleased today to be joined not only by

381
00:15:07,350 --> 00:15:05,279
members of the news media but members of

382
00:15:09,269 --> 00:15:07,360
the social media crowd here at kennedy

383
00:15:11,350 --> 00:15:09,279
space center and we may also have some

384
00:15:12,870 --> 00:15:11,360
participants on the phone bridge and due

385
00:15:15,110 --> 00:15:12,880
to the fact that mr suffradini is

386
00:15:17,350 --> 00:15:15,120
joining us by telephone and we have

387
00:15:19,030 --> 00:15:17,360
three mics and one hans it would help if

388
00:15:22,230 --> 00:15:19,040

you could please address your question

389
00:15:24,550 --> 00:15:22,240
to uh to whom you are asking it uh also

390
00:15:27,269 --> 00:15:24,560
please wait for the microphone and we'll

391
00:15:30,310 --> 00:15:27,279
start off with marcia dunn

392
00:15:31,910 --> 00:15:30,320
marcia done associated press for mike um

393
00:15:34,870 --> 00:15:31,920
do you have any idea what happened to

394
00:15:37,269 --> 00:15:34,880
that mdm why did it fail and for the

395
00:15:41,350 --> 00:15:37,279
space walk what's the soonest you think

396
00:15:43,509 --> 00:15:41,360
you could pull that off

397
00:15:45,430 --> 00:15:43,519
uh marcia no we don't know why it failed

398
00:15:48,710 --> 00:15:45,440
we were we were bringing it up and it

399
00:15:51,749 --> 00:15:48,720
didn't it didn't come up um and so and

400
00:15:53,670 --> 00:15:51,759
we know by the current draw that

401
00:15:56,550 --> 00:15:53,680
uh that it's not operating properly at

402
00:15:59,509 --> 00:15:56,560
all so but we don't we don't know the

403
00:16:04,710 --> 00:15:59,519
root cause of the the anomaly

404
00:16:07,430 --> 00:16:04,720
uh and today we plan uh eva 26 on the

405
00:16:12,629 --> 00:16:07,440
22nd is our current plan right before

406
00:16:19,189 --> 00:16:13,990
irene

407
00:16:21,509 --> 00:16:19,199
for you mike saffordini um what would be

408
00:16:23,670 --> 00:16:21,519
the plan if for some reason the falcon 9

409
00:16:24,870 --> 00:16:23,680
can't launch tomorrow

410
00:16:26,150 --> 00:16:24,880
as far as

411
00:16:28,790 --> 00:16:26,160
the

412
00:16:31,670 --> 00:16:28,800
things that you're going to be doing to

413
00:16:34,629 --> 00:16:31,680

protect against another mdm failure does

414
00:16:36,629 --> 00:16:34,639
that impact the

415
00:16:39,829 --> 00:16:36,639
with the launch go forward then on on

416
00:16:41,749 --> 00:16:39,839
friday and also why isn't um there a day

417
00:16:46,069 --> 00:16:41,759
available before friday is that a range

418
00:16:49,590 --> 00:16:47,990
uh the answer your second question is

419
00:16:51,350 --> 00:16:49,600
it's just the way the orbital mechanics

420
00:16:53,910 --> 00:16:51,360
work out

421
00:16:55,670 --> 00:16:53,920
and and the fact that we're trying for

422
00:16:57,829 --> 00:16:55,680
a rendezvous within a certain amount of

423
00:17:00,389 --> 00:16:57,839
time for the research so in order to

424
00:17:02,230 --> 00:17:00,399
protect uh the amount time takes to

425
00:17:04,789 --> 00:17:02,240
rendezvous

426
00:17:06,309 --> 00:17:04,799
turns out the 18th is the next

427
00:17:09,110 --> 00:17:06,319
good candidate

428
00:17:14,949 --> 00:17:11,429
the plan today is we would continue on

429
00:17:17,510 --> 00:17:14,959
the preparations for the eva

430
00:17:19,510 --> 00:17:17,520
and keep the solar rays

431
00:17:20,949 --> 00:17:19,520
in the fixed position we're going to put

432
00:17:25,750 --> 00:17:20,959
them

433
00:17:28,069 --> 00:17:25,760
that we're protected and uh no i'm sorry

434
00:17:30,630 --> 00:17:28,079
i take that back what we will do is we

435
00:17:32,710 --> 00:17:30,640
will keep

436
00:17:34,630 --> 00:17:32,720
the the position we want the solar rays

437
00:17:37,029 --> 00:17:34,640
to be at loaded on board

438
00:17:39,669 --> 00:17:37,039

and we will not go there until the 18th

439
00:17:41,110 --> 00:17:39,679
but the software is set up such that if

440
00:17:42,549 --> 00:17:41,120
we have the next failure it will

441
00:17:44,470 --> 00:17:42,559
automatically put the arrays in the

442
00:17:46,390 --> 00:17:44,480
right position

443
00:17:48,230 --> 00:17:46,400
and so we will wait for the space

444
00:17:50,549 --> 00:17:48,240
x vehicle to show up

445
00:17:52,150 --> 00:17:50,559
uh and then perform the eva

446
00:17:55,590 --> 00:17:52,160
at least that's our current plan with

447
00:17:58,310 --> 00:17:55,600
the 18th as the as the launch date

448
00:18:00,310 --> 00:17:58,320
and uh part of the reason is there's um

449
00:18:01,669 --> 00:18:00,320
there's a i'll call it a gasket it's not

450
00:18:04,150 --> 00:18:01,679
really gasket but that gives you the

451
00:18:06,710 --> 00:18:04,160
right image it's a some material that we

452
00:18:08,950 --> 00:18:06,720
have to affix to the bottom of the mdm

453
00:18:10,390 --> 00:18:08,960
it's called coal therm

454
00:18:14,470 --> 00:18:10,400
it just allows you better heat

455
00:18:17,590 --> 00:18:14,480
conductivity between the the mdm itself

456
00:18:19,029 --> 00:18:17,600
and the cold plate it sits on and

457
00:18:20,789 --> 00:18:19,039
while we have some on orbit we don't

458
00:18:21,830 --> 00:18:20,799
have the proper one for this particular

459
00:18:23,909 --> 00:18:21,840
mdm

460
00:18:25,990 --> 00:18:23,919
we have a backup plan if we if we can't

461
00:18:27,350 --> 00:18:26,000
get a spacex vehicle there but given the

462
00:18:29,110 --> 00:18:27,360
time it takes us to get ready for the

463
00:18:31,590 --> 00:18:29,120

eva anyway

464
00:18:33,510 --> 00:18:31,600
the plan today at least the way we think

465
00:18:35,350 --> 00:18:33,520
about it today is that we would wait

466
00:18:37,669 --> 00:18:35,360
till the 18th have spacex launch and

467
00:18:39,190 --> 00:18:37,679
birth and then we'd do the eba

468
00:18:43,190 --> 00:18:39,200
sometime shortly after that but we'd

469
00:18:45,430 --> 00:18:43,200
have to work out those details

470
00:18:47,750 --> 00:18:45,440
uh bill harwood

471
00:18:49,190 --> 00:18:47,760
hi bill harwood cbs news for mike a

472
00:18:50,549 --> 00:18:49,200
couple of really quick ones um who would

473
00:18:53,750 --> 00:18:50,559
do the eva

474
00:18:55,590 --> 00:18:53,760
where does orbital go uh if spacex

475
00:18:57,270 --> 00:18:55,600
launches on time where does which slot

476
00:18:59,270 --> 00:18:57,280
does orbital end up in and then i have

477
00:19:02,150 --> 00:18:59,280
one follow it

478
00:19:05,590 --> 00:19:02,160
uh we will decide today who does the eba

479
00:19:07,110 --> 00:19:05,600
um the orbital guys uh one spacex births

480
00:19:09,029 --> 00:19:07,120
we're going to send them to the other

481
00:19:12,150 --> 00:19:09,039
side of the beta cutout

482
00:19:13,909 --> 00:19:12,160
um they're probably birth

483
00:19:15,669 --> 00:19:13,919
i don't know exactly but it's sometime

484
00:19:18,070 --> 00:19:15,679
after the beta cut out on the ninth it's

485
00:19:20,070 --> 00:19:18,080
probably like the 12th but uh we haven't

486
00:19:21,750 --> 00:19:20,080
finalized that yet

487
00:19:23,270 --> 00:19:21,760
the birth the first time would be the

488
00:19:24,870 --> 00:19:23,280

12th we'll have to look at launch

489
00:19:26,230 --> 00:19:24,880
opportunities and things like that

490
00:19:27,669 --> 00:19:26,240
thanks and then one one kind of

491
00:19:29,029 --> 00:19:27,679
philosophical question you know you guys

492
00:19:30,789 --> 00:19:29,039
have trained us successfully over the

493
00:19:31,590 --> 00:19:30,799
years to know how important redundancy

494
00:19:35,110 --> 00:19:31,600
is

495
00:19:36,630 --> 00:19:35,120
factors that made you decide it was more

496
00:19:39,350 --> 00:19:36,640
important to launch spacex before you

497
00:19:40,789 --> 00:19:39,360
did an eva to replace the mdm i'm just

498
00:19:44,310 --> 00:19:40,799
curious if there's any other details you

499
00:19:46,150 --> 00:19:44,320
can share about the logic of that thanks

500
00:19:48,230 --> 00:19:46,160
yes and it's good that we've trained you

501
00:19:49,990 --> 00:19:48,240
guys so that you make sure you ask us

502
00:19:53,430 --> 00:19:50,000
that each time so essentially where we

503
00:19:55,830 --> 00:19:53,440
ended up bill because of the

504
00:19:56,950 --> 00:19:55,840
beta that we're in we're able to

505
00:19:57,750 --> 00:19:56,960
essentially

506
00:20:03,990 --> 00:19:57,760
get

507
00:20:06,630 --> 00:20:04,000
because we can position the solar arrays

508
00:20:08,549 --> 00:20:06,640
such that we're okay the thermal control

509
00:20:10,470 --> 00:20:08,559
system will take care of itself it has

510
00:20:13,510 --> 00:20:10,480
all of its protections

511
00:20:16,230 --> 00:20:13,520
um even though we can't command it

512
00:20:18,710 --> 00:20:16,240
we can it can still operate itself

513
00:20:21,110 --> 00:20:18,720

uh the mobile transporter

514
00:20:23,270 --> 00:20:21,120
we'd lose but when we it wouldn't be as

515
00:20:24,710 --> 00:20:23,280
big a deal as spacex wasn't there so in

516
00:20:27,270 --> 00:20:24,720
that respect once we move it off a

517
00:20:29,510 --> 00:20:27,280
worksite poor so we can get to the mdms

518
00:20:32,149 --> 00:20:29,520
it's not a huge deal and then the last

519
00:20:34,630 --> 00:20:32,159
big system is the the targe itself where

520
00:20:36,870 --> 00:20:34,640
we operate the targe in a pretty much

521
00:20:38,630 --> 00:20:36,880
fixed position most of the time and

522
00:20:41,350 --> 00:20:38,640
that's where it is today

523
00:20:43,350 --> 00:20:41,360
so once you sort out those issues you

524
00:20:45,190 --> 00:20:43,360
realize you have full redundancy on the

525
00:20:47,270 --> 00:20:45,200
thermal control system

526
00:20:48,710 --> 00:20:47,280
we're going to move the mt today and so

527
00:20:50,710 --> 00:20:48,720
we'll have it out of the way so we can

528
00:20:52,710 --> 00:20:50,720
do the eba

529
00:20:55,669 --> 00:20:52,720
and we have the solar ray position that

530
00:20:58,310 --> 00:20:55,679
protects us for many days as if we'd had

531
00:21:00,310 --> 00:20:58,320
as if we had a the next failure then

532
00:21:02,630 --> 00:21:00,320
we're in a we're in a good position as

533
00:21:05,110 --> 00:21:02,640
if we do have the redundancy that the

534
00:21:07,270 --> 00:21:05,120
lcc calls for the reason why we want to

535
00:21:09,029 --> 00:21:07,280
get the spacex vehicle up is as you know

536
00:21:11,029 --> 00:21:09,039
we've been kind of slipping a little bit

537
00:21:13,190 --> 00:21:11,039
to the right uh while we've been

538
00:21:16,070 --> 00:21:13,200

consuming our resources on board we

539
00:21:18,149 --> 00:21:16,080
reach a skip cycle on food which is 45

540
00:21:19,909 --> 00:21:18,159
days we reach skip cycle on food on june

541
00:21:21,669 --> 00:21:19,919
the 18th

542
00:21:23,510 --> 00:21:21,679
so there's a you know there's a certain

543
00:21:26,310 --> 00:21:23,520
amount of urgency to go ahead and get

544
00:21:30,630 --> 00:21:26,320
these vehicles on iss you know as soon

545
00:21:32,149 --> 00:21:30,640
as we safely can do that and so perhaps

546
00:21:35,110 --> 00:21:32,159
what you're thinking is what we would

547
00:21:36,630 --> 00:21:35,120
consider doing is waiting with the eba

548
00:21:37,830 --> 00:21:36,640
but if we wait you're going to go past

549
00:21:39,830 --> 00:21:37,840
the 18th

550
00:21:42,549 --> 00:21:39,840
um and then you got to find the next

551
00:21:44,789 --> 00:21:42,559
opportunity for spacex or decide that

552
00:21:46,549 --> 00:21:44,799
you can put orbital in then you have the

553
00:21:48,070 --> 00:21:46,559
crew rotation and the cutout now you're

554
00:21:49,350 --> 00:21:48,080
on the other side of june and then we

555
00:21:51,110 --> 00:21:49,360
got all the things that have to happen

556
00:21:53,669 --> 00:21:51,120
in the summertime

557
00:21:55,909 --> 00:21:53,679
and so things start to bunch up and and

558
00:21:58,950 --> 00:21:55,919
so we're just trying to fly

559
00:22:00,390 --> 00:21:58,960
uh as soon as we safely can which is

560
00:22:03,510 --> 00:22:00,400
what we believe we're doing in this

561
00:22:08,789 --> 00:22:05,029
james

562
00:22:10,950 --> 00:22:08,799
hans i wonder if you could discuss a

563
00:22:12,710 --> 00:22:10,960

little bit your plans to try to recover

564
00:22:14,310 --> 00:22:12,720
the first stage

565
00:22:16,310 --> 00:22:14,320
how are you going to go about that what

566
00:22:18,470 --> 00:22:16,320
what it involves and what you'll

567
00:22:20,070 --> 00:22:18,480
when you think you might be able to

568
00:22:22,310 --> 00:22:20,080
to tell us about how it goes if we'll

569
00:22:23,830 --> 00:22:22,320
see anything and and as well for mr

570
00:22:25,110 --> 00:22:23,840
suffredini i was wondering if you could

571
00:22:27,430 --> 00:22:25,120
address

572
00:22:29,510 --> 00:22:27,440
nasa's interest in

573
00:22:31,669 --> 00:22:29,520
in that event although obviously not

574
00:22:33,669 --> 00:22:31,679
really relevant to the dragon flight but

575
00:22:35,029 --> 00:22:33,679
how are you supporting was there any any

576
00:22:36,549 --> 00:22:35,039
issues

577
00:22:38,390 --> 00:22:36,559
from nasa's perspective about trying

578
00:22:41,350 --> 00:22:38,400
that and putting the landing legs on

579
00:22:43,190 --> 00:22:41,360
this vehicle

580
00:22:44,950 --> 00:22:43,200
yeah you mentioned the landing legs we

581
00:22:45,909 --> 00:22:44,960
have landing legs on this vehicle four

582
00:22:48,390 --> 00:22:45,919
of them

583
00:22:50,710 --> 00:22:48,400
25 feet tall and

584
00:22:52,230 --> 00:22:50,720
the i must point out that the entire

585
00:22:53,669 --> 00:22:52,240
recovery of the first stage is

586
00:22:55,669 --> 00:22:53,679
completely experimental it has nothing

587
00:22:58,310 --> 00:22:55,679
to do with the primary mission here

588
00:22:59,909 --> 00:22:58,320

um the stage separates and then

589
00:23:02,630 --> 00:22:59,919
waits a while until the second stage

590
00:23:04,470 --> 00:23:02,640
goes far away and uh and then starts

591
00:23:05,669 --> 00:23:04,480
starts basically going going through a

592
00:23:08,549 --> 00:23:05,679
sequence

593
00:23:10,950 --> 00:23:08,559
that is completely experimental we are

594
00:23:13,590 --> 00:23:10,960
super thrilled you know if the first

595
00:23:15,350 --> 00:23:13,600
step works overall we're expecting 30 40

596
00:23:17,990 --> 00:23:15,360
percent maybe uh

597
00:23:19,270 --> 00:23:18,000
really low balling the the probability

598
00:23:20,390 --> 00:23:19,280
of success here

599
00:23:22,070 --> 00:23:20,400
um

600
00:23:23,510 --> 00:23:22,080
because this is this is a a really

601
00:23:24,950 --> 00:23:23,520
difficult uh

602
00:23:25,830 --> 00:23:24,960
difficult maneuver

603
00:23:29,110 --> 00:23:25,840
um

604
00:23:31,350 --> 00:23:29,120
we have a boat boat downrange and uh we

605
00:23:34,470 --> 00:23:31,360
will perform a entry burn and a landing

606
00:23:35,510 --> 00:23:34,480
burn we will pretend the water is land

607
00:23:36,630 --> 00:23:35,520
basically

608
00:23:37,669 --> 00:23:36,640
and uh

609
00:23:39,909 --> 00:23:37,679
and have a

610
00:23:41,430 --> 00:23:39,919
touchdown of the stage

611
00:23:43,350 --> 00:23:41,440
and um

612
00:23:45,190 --> 00:23:43,360
if that if that would happen we would be

613
00:23:47,110 --> 00:23:45,200

super thrilled if uh

614
00:23:48,870 --> 00:23:47,120
you know if we just do a good entry burn

615
00:23:50,789 --> 00:23:48,880
we would be super thrilled to so again

616
00:23:52,070 --> 00:23:50,799
the expectations aren't very high on our

617
00:23:54,310 --> 00:23:52,080
side

618
00:23:56,549 --> 00:23:54,320
but we certainly

619
00:23:59,190 --> 00:23:56,559
we've been doing improvements uh to the

620
00:24:00,390 --> 00:23:59,200
to the recovery of the first stage in

621
00:24:02,470 --> 00:24:00,400
little steps

622
00:24:03,830 --> 00:24:02,480
um being very careful that it doesn't

623
00:24:07,510 --> 00:24:03,840
affect the safety and the the

624
00:24:11,750 --> 00:24:08,789
uh mike did you want to address the

625
00:24:13,990 --> 00:24:11,760
other question uh yes so other than just

626
00:24:16,630 --> 00:24:14,000
being uh you know space geeks and very

627
00:24:18,789 --> 00:24:16,640
excited about this idea and and seeing

628
00:24:20,549 --> 00:24:18,799
it uh come to fruition we have a couple

629
00:24:23,510 --> 00:24:20,559
responsibilities

630
00:24:25,029 --> 00:24:23,520
as an agency one is uh to support

631
00:24:28,870 --> 00:24:25,039
uh commercial

632
00:24:29,990 --> 00:24:28,880
um use of of space which obviously this

633
00:24:35,350 --> 00:24:30,000
uh

634
00:24:37,350 --> 00:24:35,360
space

635
00:24:39,029 --> 00:24:37,360
but the more immediate responsibility

636
00:24:41,029 --> 00:24:39,039
the international space station program

637
00:24:42,710 --> 00:24:41,039
is to assure that any modifications like

638
00:24:44,390 --> 00:24:42,720

this do not put

639
00:24:45,909 --> 00:24:44,400
the flight at risk such that we're

640
00:24:48,149 --> 00:24:45,919
uncomfortable putting our payloads on

641
00:24:50,230 --> 00:24:48,159
the dragon spacecraft so our review of

642
00:24:52,470 --> 00:24:50,240
this was in two areas one in terms of

643
00:24:54,470 --> 00:24:52,480
the impact of performance

644
00:24:56,149 --> 00:24:54,480
uh specifically worry that you don't

645
00:24:58,710 --> 00:24:56,159
want to take out too much of your engine

646
00:25:00,950 --> 00:24:58,720
out capability well this the added mass

647
00:25:02,549 --> 00:25:00,960
is very very small can

648
00:25:05,110 --> 00:25:02,559
when you compare that to the overall

649
00:25:08,070 --> 00:25:05,120
performance of the of the

650
00:25:09,909 --> 00:25:08,080
uh 1.1 version of the falcon 9

651
00:25:11,110 --> 00:25:09,919
vehicle and so in that respect there was

652
00:25:12,470 --> 00:25:11,120
really

653
00:25:14,710 --> 00:25:12,480
no appreciable

654
00:25:15,990 --> 00:25:14,720
impact in addition that of course we

655
00:25:17,750 --> 00:25:16,000
didn't want to make sure we wanted to

656
00:25:20,230 --> 00:25:17,760
make sure that design was such that the

657
00:25:22,470 --> 00:25:20,240
legs wouldn't prematurely deploy uh

658
00:25:24,230 --> 00:25:22,480
during ascent so we looked at the system

659
00:25:25,669 --> 00:25:24,240
design and and we're comfortable that

660
00:25:26,830 --> 00:25:25,679
the redundancies are there to protect

661
00:25:28,310 --> 00:25:26,840
them from

662
00:25:29,510 --> 00:25:28,320
inappropriate deploy and then of course

663
00:25:31,190 --> 00:25:29,520

after that

664
00:25:33,350 --> 00:25:31,200
it's like you said once we're convinced

665
00:25:35,510 --> 00:25:33,360
that it won't affect dragon performance

666
00:25:40,470 --> 00:25:35,520
then anything we can do to

667
00:25:44,070 --> 00:25:40,480
to help out we we feel obligated to do

668
00:25:46,470 --> 00:25:44,080
j barbary j barbary with nbc this is for

669
00:25:49,269 --> 00:25:46,480
hans and you too mike um

670
00:25:51,510 --> 00:25:49,279
it looks uh as things stand today that

671
00:25:53,510 --> 00:25:51,520
the most likely spacecraft american

672
00:25:55,669 --> 00:25:53,520
spacecraft to visit the space station

673
00:25:58,549 --> 00:25:55,679
with astronauts will be

674
00:26:01,590 --> 00:25:58,559
spacex's spacecraft huns

675
00:26:03,110 --> 00:26:01,600
where do we stand as of this time what

676
00:26:06,070 --> 00:26:03,120
has to be done

677
00:26:07,909 --> 00:26:06,080
before spacex can fly astronauts to and

678
00:26:09,830 --> 00:26:07,919
from the space station what's the best

679
00:26:11,430 --> 00:26:09,840
guest on your time and mike if you'd

680
00:26:12,630 --> 00:26:11,440
like to add anything we'd like to hear

681
00:26:13,669 --> 00:26:12,640
from you

682
00:26:14,789 --> 00:26:13,679
so

683
00:26:16,390 --> 00:26:14,799
i'm

684
00:26:18,549 --> 00:26:16,400
acting as the launch chief engineer for

685
00:26:20,390 --> 00:26:18,559
this mission and i'm super focused on

686
00:26:22,470 --> 00:26:20,400
this mission in fact

687
00:26:24,789 --> 00:26:22,480
i've been here for a couple of weeks now

688
00:26:25,669 --> 00:26:24,799

and not doing anything but work on it

689
00:26:27,909 --> 00:26:25,679
so

690
00:26:30,310 --> 00:26:27,919
i i'm not sure i can really answer the

691
00:26:31,669 --> 00:26:30,320
question as as good as you want an

692
00:26:34,310 --> 00:26:31,679
answer but i can tell you that in

693
00:26:36,870 --> 00:26:34,320
general yes in general i can tell you we

694
00:26:38,230 --> 00:26:36,880
are proceeding on our side with our crew

695
00:26:40,070 --> 00:26:38,240
crew dragon program right now we're

696
00:26:41,669 --> 00:26:40,080
meeting the milestones we have a couple

697
00:26:43,590 --> 00:26:41,679
flight tests coming up later this year

698
00:26:45,990 --> 00:26:43,600
it's going to be exciting

699
00:26:47,110 --> 00:26:46,000
and i really don't know any more details

700
00:26:48,549 --> 00:26:47,120
in terms of

701
00:26:50,950 --> 00:26:48,559
what needs to be done in the in the long

702
00:26:56,710 --> 00:26:53,990
you have no idea now where that might be

703
00:26:59,029 --> 00:26:56,720
in two years three years four years and

704
00:27:00,710 --> 00:26:59,039
mike what do you have to see from spacex

705
00:27:04,789 --> 00:27:00,720
before you let them visit your space

706
00:27:10,470 --> 00:27:07,029
all right well let's see i'll be equally

707
00:27:13,029 --> 00:27:10,480
uh unimpressive for you uh jay um you

708
00:27:16,950 --> 00:27:13,039
know we have uh the commercial crew

709
00:27:21,590 --> 00:27:16,960
program uh which i do not manage um is

710
00:27:25,350 --> 00:27:21,600
working on a process to try to get us

711
00:27:27,269 --> 00:27:25,360
a capability that we then can procure

712
00:27:28,789 --> 00:27:27,279
in that process we have defined our

713
00:27:30,630 --> 00:27:28,799

requirements for the international space

714
00:27:34,389 --> 00:27:30,640
station in order for a vehicle to come

715
00:27:37,110 --> 00:27:34,399
and approach iss and and carry our crew

716
00:27:38,789 --> 00:27:37,120
to iss and those requirements are in the

717
00:27:41,269 --> 00:27:38,799
most latest procurement that is out

718
00:27:42,870 --> 00:27:41,279
there uh that in fact we've received

719
00:27:44,630 --> 00:27:42,880
proposals for so we're very sensitive

720
00:27:45,590 --> 00:27:44,640
about any conversations along those

721
00:27:48,389 --> 00:27:45,600
lines

722
00:27:50,549 --> 00:27:48,399
uh but just to the extent um

723
00:27:53,029 --> 00:27:50,559
that the international space station

724
00:27:55,190 --> 00:27:53,039
needs a commercial crew capability and

725
00:27:57,510 --> 00:27:55,200
we've said as an agency and an

726
00:27:59,510 --> 00:27:57,520
administration that that's our our goal

727
00:28:01,990 --> 00:27:59,520
and our focus we have provided our

728
00:28:04,789 --> 00:28:02,000
requirements and we're in the process

729
00:28:07,830 --> 00:28:04,799
and the next step in the procurement

730
00:28:10,149 --> 00:28:07,840
and uh and we just look forward to

731
00:28:12,470 --> 00:28:10,159
to the capability when it

732
00:28:15,190 --> 00:28:12,480
when it arrives and

733
00:28:17,510 --> 00:28:15,200
and whoever provides it

734
00:28:20,149 --> 00:28:17,520
we'll take uh can you give us any time

735
00:28:23,909 --> 00:28:20,159
frame at all are we talking two years

736
00:28:25,830 --> 00:28:23,919
three years six years 40 years what

737
00:28:28,710 --> 00:28:25,840
i can tell you that the next step in the

738
00:28:30,230 --> 00:28:28,720

process is the development contract and

739
00:28:32,230 --> 00:28:30,240
they're trying to make that selection

740
00:28:35,350 --> 00:28:32,240
here in the fall

741
00:28:38,710 --> 00:28:35,360
we assume uh that we will have an

742
00:28:41,590 --> 00:28:38,720
ability to put increment crew members on

743
00:28:43,510 --> 00:28:41,600
a commercial vehicle in 2018.

744
00:28:46,630 --> 00:28:43,520
so we've procured seats from our russian

745
00:28:48,310 --> 00:28:46,640
counterparts through 2017 and we

746
00:28:51,190 --> 00:28:48,320
are looking forward to a commercial crew

747
00:28:53,269 --> 00:28:51,200
capability uh

748
00:28:54,470 --> 00:28:53,279
in 2018 now that's to put increment

749
00:28:56,230 --> 00:28:54,480
crews

750
00:28:57,909 --> 00:28:56,240
you might hear some folks talk they can

751
00:28:59,669 --> 00:28:57,919
go earlier than that with demonstration

752
00:29:00,870 --> 00:28:59,679
crews and the like and we're prepared to

753
00:29:02,470 --> 00:29:00,880
support that

754
00:29:04,470 --> 00:29:02,480
if they're ready

755
00:29:07,070 --> 00:29:04,480
we'll take one more here before we uh go

756
00:29:08,630 --> 00:29:07,080
to the phone bridge jason jason ryan for

757
00:29:11,750 --> 00:29:08,640
spaceflightinsider.com and this one goes

758
00:29:15,669 --> 00:29:11,760
out to hans with also back up to a mic

759
00:29:17,590 --> 00:29:15,679
it's a question of timing crs3 space x3

760
00:29:19,110 --> 00:29:17,600
has slipped

761
00:29:21,269 --> 00:29:19,120
best number i have the top of my head i

762
00:29:23,190 --> 00:29:21,279
think is six times and we've seen that

763
00:29:24,870 --> 00:29:23,200

due to the the skirting issues do the

764
00:29:28,230 --> 00:29:24,880
the range issue which also delayed

765
00:29:33,350 --> 00:29:30,470
crs if if memory serves is supposed to

766
00:29:35,110 --> 00:29:33,360
supply services to 2016

767
00:29:37,830 --> 00:29:35,120
spacex seems to launch about the rate of

768
00:29:40,789 --> 00:29:37,840
two to three times a year

769
00:29:43,590 --> 00:29:40,799
is is that 2016 a hard and fast date or

770
00:29:46,710 --> 00:29:43,600
is it more nebulous if if spacex doesn't

771
00:29:49,510 --> 00:29:46,720
meet the 12 missions by 2016 will there

772
00:29:51,830 --> 00:29:49,520
be a penalty or will just be extended

773
00:29:52,630 --> 00:29:51,840
how is that how does that work

774
00:29:54,549 --> 00:29:52,640
so

775
00:29:56,230 --> 00:29:54,559
i honestly don't know the answer to your

776
00:29:58,389 --> 00:29:56,240
last question but i can tell you that

777
00:30:00,470 --> 00:29:58,399
the plan is not to launch two or three

778
00:30:03,029 --> 00:30:00,480
missions a year and we in fact we we did

779
00:30:05,350 --> 00:30:03,039
demonstrate over um the last the end of

780
00:30:07,430 --> 00:30:05,360
the last year that we can launch

781
00:30:10,710 --> 00:30:07,440
basically within a month it was a month

782
00:30:12,470 --> 00:30:10,720
and a day or so so um the we're taking

783
00:30:14,230 --> 00:30:12,480
we're taking the actions to increase the

784
00:30:15,669 --> 00:30:14,240
launch rate dramatically and go

785
00:30:17,830 --> 00:30:15,679
basically um

786
00:30:19,029 --> 00:30:17,840
you know to to uh

787
00:30:20,950 --> 00:30:19,039
being capable

788
00:30:23,830 --> 00:30:20,960

launched within uh

789
00:30:25,909 --> 00:30:23,840
three weeks two weeks um and and and

790
00:30:28,470 --> 00:30:25,919
always faster as you know as

791
00:30:31,269 --> 00:30:28,480
time goes on but um

792
00:30:33,909 --> 00:30:31,279
the so i'm not i'm also not sure if the

793
00:30:37,830 --> 00:30:33,919
crs mission really slipped that much um

794
00:30:39,750 --> 00:30:37,840
overall um there were dragon dragon

795
00:30:42,710 --> 00:30:39,760
missions typically are a little bit more

796
00:30:45,110 --> 00:30:42,720
complex i can tell you that it's a it's

797
00:30:47,830 --> 00:30:45,120
a more complex spacecraft

798
00:30:49,990 --> 00:30:47,840
but we equally try to

799
00:30:54,389 --> 00:30:50,000
increase the launch rate being again

800
00:30:59,350 --> 00:30:57,669
see i'll follow up so so we um

801
00:31:02,789 --> 00:30:59,360
you you have it right the contract

802
00:31:05,669 --> 00:31:02,799
really is through 2015 to order services

803
00:31:06,950 --> 00:31:05,679
in 2016 to to complete the provision of

804
00:31:10,230 --> 00:31:06,960
services

805
00:31:12,389 --> 00:31:10,240
uh today uh the launch rate is so we're

806
00:31:15,350 --> 00:31:12,399
assuming something on the order

807
00:31:18,710 --> 00:31:15,360
on average of about three uh spacex's

808
00:31:19,750 --> 00:31:18,720
and two orbitals a year to to make that

809
00:31:22,470 --> 00:31:19,760
happen

810
00:31:24,950 --> 00:31:22,480
uh the shuttle had provided so many

811
00:31:26,950 --> 00:31:24,960
provisions uh in its last two or three

812
00:31:28,870 --> 00:31:26,960
flights that we have been really in good

813
00:31:32,630 --> 00:31:28,880

shape relative to

814
00:31:34,630 --> 00:31:32,640
uh logistics for the crew and so as the

815
00:31:36,630 --> 00:31:34,640
as we've gotten to a little more as we

816
00:31:38,950 --> 00:31:36,640
try to get to a little

817
00:31:40,549 --> 00:31:38,960
higher tempo of

818
00:31:43,269 --> 00:31:40,559
flights to the international space

819
00:31:45,029 --> 00:31:43,279
station we've been okay uh because of

820
00:31:47,509 --> 00:31:45,039
what the shuttle did for us today i

821
00:31:49,669 --> 00:31:47,519
would tell you uh we look at the rates

822
00:31:52,230 --> 00:31:49,679
and and move things around

823
00:31:53,590 --> 00:31:52,240
we will get all of our flights

824
00:31:57,029 --> 00:31:53,600
in or we'll be able to get all of our

825
00:31:59,830 --> 00:31:57,039
flights in by 2016

826
00:32:01,909 --> 00:31:59,840
however we are also now looking at the

827
00:32:02,789 --> 00:32:01,919
follow-on procurements

828
00:32:04,149 --> 00:32:02,799
um

829
00:32:06,070 --> 00:32:04,159
for the

830
00:32:07,029 --> 00:32:06,080
for services to the international space

831
00:32:09,350 --> 00:32:07,039
station

832
00:32:12,389 --> 00:32:09,360
the plan probably is to extend the

833
00:32:13,350 --> 00:32:12,399
existing contract one or two years

834
00:32:17,029 --> 00:32:13,360
and then

835
00:32:18,630 --> 00:32:17,039
competition for the follow-on to the

836
00:32:19,669 --> 00:32:18,640
life of the international space station

837
00:32:22,870 --> 00:32:19,679
that's all

838
00:32:24,389 --> 00:32:22,880

uh being sorted out today um in the in

839
00:32:26,789 --> 00:32:24,399
the next few weeks

840
00:32:27,590 --> 00:32:26,799
uh so uh but that's kind of what the

841
00:32:30,710 --> 00:32:27,600
plan

842
00:32:33,909 --> 00:32:31,909
all right let's go to the phone bridge

843
00:32:37,509 --> 00:32:33,919
where uh we'll start off with elizabeth

844
00:32:39,269 --> 00:32:37,519
howell from universe today elizabeth

845
00:32:40,789 --> 00:32:39,279
hi uh this one is for mike can you let

846
00:32:43,029 --> 00:32:40,799
us know where the spare parts for the

847
00:32:47,509 --> 00:32:43,039
mdm or the mdm itself is located on the

848
00:32:52,950 --> 00:32:50,070
this particular spare was in the lab and

849
00:32:56,630 --> 00:32:52,960
stored in the lab and we have i can't

850
00:32:58,789 --> 00:32:56,640
tell you how many mdms but we have

851
00:33:02,070 --> 00:32:58,799
a number of mdms

852
00:33:04,870 --> 00:33:02,080
on orbit in different types so we have

853
00:33:06,549 --> 00:33:04,880
external mdms and we have internal mdms

854
00:33:08,389 --> 00:33:06,559
and there's some variations between some

855
00:33:11,350 --> 00:33:08,399
of those but they all use similar

856
00:33:13,669 --> 00:33:11,360
components and so not only do we have

857
00:33:15,430 --> 00:33:13,679
two or three other mdms on board we also

858
00:33:18,070 --> 00:33:15,440
have parts so we can

859
00:33:20,310 --> 00:33:18,080
build up different types of mdms but i i

860
00:33:22,310 --> 00:33:20,320
don't have the specifics in my head i do

861
00:33:25,590 --> 00:33:22,320
know that we're pretty well protected

862
00:33:27,909 --> 00:33:25,600
from a spare standpoint with mdms

863
00:33:29,750 --> 00:33:27,919

okay and uh can you also let us know uh

864
00:33:32,310 --> 00:33:29,760
what kind of similar failures have

865
00:33:34,630 --> 00:33:32,320
happened to this in the past if any

866
00:33:37,029 --> 00:33:34,640
uh this is the first ext mdm failure

867
00:33:39,590 --> 00:33:37,039
we've had on orbit

868
00:33:44,070 --> 00:33:39,600
thank you very much okay uh tarek malek

869
00:33:49,190 --> 00:33:46,630
a spacewalk question for um

870
00:33:52,310 --> 00:33:49,200
for mike zamperdini like i was just

871
00:33:55,990 --> 00:33:54,070
you mentioned that this was a

872
00:33:58,310 --> 00:33:56,000
a replacement like a spacewalk task that

873
00:34:00,389 --> 00:33:58,320
the crews are trained on uh one of those

874
00:34:02,549 --> 00:34:00,399
those 12 and i just wonder if you could

875
00:34:04,630 --> 00:34:02,559
describe i mean is it something akin to

876
00:34:06,710 --> 00:34:04,640
just swapping out a box uh replacing a

877
00:34:08,310 --> 00:34:06,720
circuit breaker uh you know that that

878
00:34:10,149 --> 00:34:08,320
kind of thing how

879
00:34:11,750 --> 00:34:10,159
how tricky a task is it and how long

880
00:34:13,829 --> 00:34:11,760
would you expect the spacewalk to take

881
00:34:16,470 --> 00:34:13,839
thanks

882
00:34:19,030 --> 00:34:16,480
uh as far as the big 12 goes this would

883
00:34:21,829 --> 00:34:19,040
be one of the simplest we could do

884
00:34:26,550 --> 00:34:21,839
it's what we call a 6b box and and it

885
00:34:30,790 --> 00:34:28,790
and and remove replace it once we move

886
00:34:32,550 --> 00:34:30,800
the mt there's really no covers over it

887
00:34:35,109 --> 00:34:32,560
anything it's it's exposed so it's

888
00:34:37,510 --> 00:34:35,119

relatively easy to get to

889
00:34:39,589 --> 00:34:37,520
it there's three bolts we have to

890
00:34:41,829 --> 00:34:39,599
essentially turn two bolts and a micro

891
00:34:44,389 --> 00:34:41,839
conical that you turn that kind of

892
00:34:46,629 --> 00:34:44,399
drives the big acne bolt that basically

893
00:34:48,869 --> 00:34:46,639
unscrews it from its location what is

894
00:34:50,069 --> 00:34:48,879
tricky about this one is the coal therm

895
00:34:51,510 --> 00:34:50,079
itself

896
00:34:55,510 --> 00:34:51,520
um it

897
00:34:57,670 --> 00:34:55,520
it is likely that it's adhered to the uh

898
00:35:00,870 --> 00:34:57,680
the heat exchanger the cold plate that's

899
00:35:03,109 --> 00:35:00,880
on the iss so there will perhaps be some

900
00:35:04,230 --> 00:35:03,119
work involved to remove any that is

901
00:35:06,069 --> 00:35:04,240
stuck

902
00:35:07,910 --> 00:35:06,079
on the cold plate

903
00:35:10,950 --> 00:35:07,920
and then of course to install the new

904
00:35:12,870 --> 00:35:10,960
one the eva is expected from the time we

905
00:35:14,630 --> 00:35:12,880
depress to the time we spend time we go

906
00:35:16,550 --> 00:35:14,640
outside time to come back in to be about

907
00:35:18,390 --> 00:35:16,560
two and a half hours

908
00:35:19,670 --> 00:35:18,400
it is the only thing we plan on doing on

909
00:35:21,510 --> 00:35:19,680
this eba we're just going to go out and

910
00:35:23,190 --> 00:35:21,520
change out that mdm so the current plan

911
00:35:24,630 --> 00:35:23,200
is two and a half hours so we have

912
00:35:25,750 --> 00:35:24,640
plenty of margin if it takes a little

913
00:35:27,109 --> 00:35:25,760

bit longer

914
00:35:29,430 --> 00:35:27,119
uh in the big scheme of things though

915
00:35:31,190 --> 00:35:29,440
once we move the mt this is one of the

916
00:35:34,710 --> 00:35:31,200
easier things for us to do it's very

917
00:35:37,190 --> 00:35:34,720
close to the center of s0 and so the

918
00:35:40,150 --> 00:35:37,200
trip from the airlock to its location is

919
00:35:43,109 --> 00:35:41,589
all right we have one more question on

920
00:35:44,990 --> 00:35:43,119
the phone bridge then we'll come back

921
00:35:48,150 --> 00:35:45,000
here uh robert perlman from

922
00:35:51,510 --> 00:35:48,160
collectspace.com rob go ahead

923
00:35:53,910 --> 00:35:51,520
hi thank you a question for hans um

924
00:35:55,109 --> 00:35:53,920
i believe the v the falcon is right now

925
00:35:56,870 --> 00:35:55,119
vertical

926
00:35:58,550 --> 00:35:56,880
can you say if late snow has already

927
00:36:01,190 --> 00:35:58,560
occurred or if not when that's going to

928
00:36:03,270 --> 00:36:01,200
occur and what are the late stow items

929
00:36:04,069 --> 00:36:03,280
for this flight yeah it's a good point

930
00:36:07,030 --> 00:36:04,079
um

931
00:36:09,190 --> 00:36:07,040
so the the late star actually is is

932
00:36:11,910 --> 00:36:09,200
going to begin in this afternoon

933
00:36:13,829 --> 00:36:11,920
it will come i thought actually it was

934
00:36:15,190 --> 00:36:13,839
coming down as we started the the press

935
00:36:16,230 --> 00:36:15,200
conference here

936
00:36:17,510 --> 00:36:16,240
um

937
00:36:19,349 --> 00:36:17,520
and uh

938
00:36:21,589 --> 00:36:19,359

as you pointed out the next step is

939
00:36:23,270 --> 00:36:21,599
going to be the late load um i'm not

940
00:36:25,990 --> 00:36:23,280
fully aware of all the parts that go

941
00:36:28,310 --> 00:36:26,000
into into late load there's going to be

942
00:36:31,349 --> 00:36:28,320
signs payloads on there

943
00:36:33,270 --> 00:36:31,359
the refrigerators and

944
00:36:34,470 --> 00:36:33,280
i do know that it's a significant amount

945
00:36:37,190 --> 00:36:34,480
of late load

946
00:36:38,150 --> 00:36:37,200
i think it's close to a thousand pounds

947
00:36:39,910 --> 00:36:38,160
so

948
00:36:42,150 --> 00:36:39,920
we practiced very hard over the last

949
00:36:46,470 --> 00:36:42,160
couple of weeks to get this done in time

950
00:36:51,670 --> 00:36:49,190
okay thank you back here at uh back here

951
00:36:54,870 --> 00:36:51,680
at kennedy space center

952
00:36:58,390 --> 00:36:54,880
hi uh val phillips for zero g news for

953
00:37:00,470 --> 00:36:58,400
mike in respect of the um connector for

954
00:37:02,630 --> 00:37:00,480
the mdm you mentioned that it wasn't the

955
00:37:05,030 --> 00:37:02,640
one that's specific for that particular

956
00:37:06,870 --> 00:37:05,040
model is that gonna cause any issues and

957
00:37:10,310 --> 00:37:06,880
are you gonna need to go back and kind

958
00:37:14,550 --> 00:37:12,710
it's not a connector it's a material

959
00:37:16,870 --> 00:37:14,560
that we put on the

960
00:37:19,829 --> 00:37:16,880
on the interface to the cold plate it's

961
00:37:21,990 --> 00:37:19,839
relatively thin it looks like a gasket

962
00:37:24,870 --> 00:37:22,000
material if you stared at it so it's a

963
00:37:27,030 --> 00:37:24,880

thin kind of gasket material

964
00:37:28,950 --> 00:37:27,040
it already has some on there so it's not

965
00:37:31,109 --> 00:37:28,960
thick enough we're going to put

966
00:37:32,790 --> 00:37:31,119
another layer on

967
00:37:34,710 --> 00:37:32,800
and we have one on orbit that we could

968
00:37:36,630 --> 00:37:34,720
modify if we had to

969
00:37:38,230 --> 00:37:36,640
so if we if we just use the ones come on

970
00:37:40,790 --> 00:37:38,240
spacex will be pretty easy we're just

971
00:37:42,550 --> 00:37:40,800
gonna it just sticks on uh the existing

972
00:37:45,190 --> 00:37:42,560
material that's already there

973
00:37:48,069 --> 00:37:45,200
um the probably the bigger challenge is

974
00:37:50,470 --> 00:37:48,079
when we remove the old mdm from its

975
00:37:54,390 --> 00:37:50,480
location and as i said earlier there's

976
00:37:56,550 --> 00:37:54,400
probably some adherence of this material

977
00:37:58,310 --> 00:37:56,560
to the cold plate outside and we'll have

978
00:38:00,150 --> 00:37:58,320
to scrape it off

979
00:38:02,069 --> 00:38:00,160
but the big scheme of things it's that's

980
00:38:04,310 --> 00:38:02,079
not a this is not a big deal it's not

981
00:38:08,390 --> 00:38:04,320
like a connector or something it's it's

982
00:38:13,349 --> 00:38:11,190
patterson with ct techjunkie.com i think

983
00:38:15,990 --> 00:38:13,359
you've sort of already answered this but

984
00:38:18,470 --> 00:38:16,000
that cold therm as you said earlier the

985
00:38:20,710 --> 00:38:18,480
kind you need is not on the station

986
00:38:23,670 --> 00:38:20,720
uh it sounds like it's been manifested

987
00:38:25,829 --> 00:38:23,680
on crs-3 is that a late manifest is is

988
00:38:27,829 --> 00:38:25,839

with late stow or is that was that

989
00:38:29,589 --> 00:38:27,839
already intended to be sent up on this

990
00:38:31,990 --> 00:38:29,599
flight

991
00:38:33,510 --> 00:38:32,000
no it's a late stow we figured out uh

992
00:38:35,670 --> 00:38:33,520
about midday yesterday that we didn't

993
00:38:36,550 --> 00:38:35,680
have the right material on board

994
00:38:41,589 --> 00:38:36,560
we

995
00:38:44,390 --> 00:38:41,599
uh they brought it out to an airport

996
00:38:45,990 --> 00:38:44,400
where one of our t-38 jets picked it up

997
00:38:48,550 --> 00:38:46,000
and then they brought it back here last

998
00:38:50,230 --> 00:38:48,560
night and took it to ksc this morning

999
00:38:52,069 --> 00:38:50,240
it's there now and will be part of the

1000
00:38:53,829 --> 00:38:52,079
late load later on

1001
00:38:57,910 --> 00:38:53,839
this afternoon

1002
00:39:02,790 --> 00:38:59,589
okay irene

1003
00:39:04,710 --> 00:39:02,800
thanks um irene klotz with uh reuters um

1004
00:39:07,190 --> 00:39:04,720
uh two quick ones for mike and then one

1005
00:39:09,109 --> 00:39:07,200
for hound for hans um aside from the

1006
00:39:11,430 --> 00:39:09,119
solar array positioning and then moving

1007
00:39:13,270 --> 00:39:11,440
the mt for um

1008
00:39:15,430 --> 00:39:13,280
unpacking the dragon trunk is there

1009
00:39:17,349 --> 00:39:15,440
anything else at all that

1010
00:39:18,790 --> 00:39:17,359
the um

1011
00:39:22,390 --> 00:39:18,800
that if there was a failure of the

1012
00:39:25,430 --> 00:39:22,400
primary mdm would impact dragon docking

1013
00:39:29,829 --> 00:39:25,440

any cameras or i assume the robot arm is

1014
00:39:32,710 --> 00:39:29,839
fine um it's on a different system

1015
00:39:35,270 --> 00:39:32,720
uh not given no not for the next failure

1016
00:39:37,910 --> 00:39:35,280
of an ext mdm now there there are other

1017
00:39:39,430 --> 00:39:37,920
failures that can take out the extmdm

1018
00:39:40,710 --> 00:39:39,440
but we have to deal with that those

1019
00:39:42,470 --> 00:39:40,720
those would we'd have to deal with

1020
00:39:45,109 --> 00:39:42,480
separately anyway but

1021
00:39:47,990 --> 00:39:45,119
um assuming no other failures just the

1022
00:39:50,230 --> 00:39:48,000
extmdm itself we those are the things we

1023
00:39:51,829 --> 00:39:50,240
had to do to be able to have the dragon

1024
00:39:53,349 --> 00:39:51,839
come in birth and then once it's birthed

1025
00:39:55,589 --> 00:39:53,359
it's just part of station we treat it

1026
00:39:56,870 --> 00:39:55,599
the same a little more power but not not

1027
00:39:58,550 --> 00:39:56,880
a lot

1028
00:40:00,230 --> 00:39:58,560
thank you and um

1029
00:40:16,390 --> 00:40:00,240
for hans um

1030
00:40:20,630 --> 00:40:17,990
um

1031
00:40:22,950 --> 00:40:20,640
if the if the falcon 9 is able to launch

1032
00:40:25,109 --> 00:40:22,960
this week is spacex still on track for

1033
00:40:27,430 --> 00:40:25,119
the um i think it's an orbcom i'm not

1034
00:40:29,270 --> 00:40:27,440
sure sorry the launch later this month

1035
00:40:31,510 --> 00:40:29,280
and could you run through the timeline a

1036
00:40:32,790 --> 00:40:31,520
little bit for the restart of the uh

1037
00:40:33,910 --> 00:40:32,800
first stage

1038
00:40:36,829 --> 00:40:33,920

and uh

1039
00:40:39,589 --> 00:40:36,839
and through splashdown or touchdown so

1040
00:40:40,790 --> 00:40:39,599
um upcoming yes it's still on on

1041
00:40:44,309 --> 00:40:40,800
schedule for

1042
00:40:50,790 --> 00:40:45,349
we

1043
00:40:52,790 --> 00:40:50,800
the 14th that would help us

1044
00:40:55,109 --> 00:40:52,800
and regarding the schedule on the uh or

1045
00:40:56,950 --> 00:40:55,119
the timing sequence on the first stage

1046
00:40:58,470 --> 00:40:56,960
i don't have the numbers in my head um

1047
00:41:01,030 --> 00:40:58,480
there's an entry burn which is

1048
00:41:03,270 --> 00:41:01,040
relatively long um

1049
00:41:04,870 --> 00:41:03,280
i want to say seven eight minutes and

1050
00:41:07,510 --> 00:41:04,880
then there's a landing burn

1051
00:41:10,950 --> 00:41:07,520
the um by the time

1052
00:41:12,309 --> 00:41:10,960
the the the stage is um

1053
00:41:14,550 --> 00:41:12,319
you know landing on the water so to

1054
00:41:16,710 --> 00:41:14,560
speak um roughly by the time the second

1055
00:41:18,069 --> 00:41:16,720
stage goes into orbit

1056
00:41:20,950 --> 00:41:18,079
it's a very short

1057
00:41:23,030 --> 00:41:20,960
land um kind of touch down vertically

1058
00:41:25,430 --> 00:41:23,040
and then fall over yeah that's what we

1059
00:41:27,829 --> 00:41:25,440
expect because obviously it's water yeah

1060
00:41:29,750 --> 00:41:27,839
and all the cameras on your ship there's

1061
00:41:32,230 --> 00:41:29,760
cameras on the ship um

1062
00:41:34,550 --> 00:41:32,240
the ship has however a safe distance so

1063
00:41:38,710 --> 00:41:34,560

that's also a reason why we don't expect

1064
00:41:39,670 --> 00:41:38,720
necessarily footage of that okay thanks

1065
00:41:41,589 --> 00:41:39,680
okay

1066
00:41:45,750 --> 00:41:41,599
interspace.net and my question is for

1067
00:41:49,109 --> 00:41:47,270
what i said earlier this is this is an

1068
00:41:51,190 --> 00:41:49,119
experimental thing and you know

1069
00:41:53,109 --> 00:41:51,200
this is the attempted timeline that's

1070
00:41:54,550 --> 00:41:53,119
how i would call that yeah just to be

1071
00:41:55,990 --> 00:41:54,560
clearly understood

1072
00:41:58,950 --> 00:41:56,000
say all that will you let us see the

1073
00:42:02,870 --> 00:42:01,990
i have a video i mean

1074
00:42:04,790 --> 00:42:02,880
yes

1075
00:42:06,790 --> 00:42:04,800
my questions about the instrumentation

1076
00:42:08,710 --> 00:42:06,800
and the communication is it good enough

1077
00:42:10,870 --> 00:42:08,720
that you'll have information in real

1078
00:42:12,710 --> 00:42:10,880
time as it's coming down and you'll know

1079
00:42:15,510 --> 00:42:12,720
how it's performing or is it more an

1080
00:42:17,910 --> 00:42:15,520
issue of you you see what the result was

1081
00:42:19,990 --> 00:42:17,920
when you have the result so um

1082
00:42:21,190 --> 00:42:20,000
the and this this refers to the first

1083
00:42:23,349 --> 00:42:21,200
stage again

1084
00:42:25,829 --> 00:42:23,359
um so i think the important part is to

1085
00:42:27,990 --> 00:42:25,839
to collect um data on these experiments

1086
00:42:29,829 --> 00:42:28,000
and uh and figure out you know if it

1087
00:42:31,589 --> 00:42:29,839
worked well or if we have to to do

1088
00:42:33,589 --> 00:42:31,599

further improvements i don't think it's

1089
00:42:35,510 --> 00:42:33,599
it's it's important to have this in real

1090
00:42:36,950 --> 00:42:35,520
time we like to see it in real time

1091
00:42:38,790 --> 00:42:36,960
because obviously you know many people

1092
00:42:41,589 --> 00:42:38,800
worked on it and and are excited about

1093
00:42:43,990 --> 00:42:41,599
it but um it's it's also

1094
00:42:45,510 --> 00:42:44,000
it's far out below the horizon so

1095
00:42:48,069 --> 00:42:45,520
there's technical difficulties getting

1096
00:42:49,670 --> 00:42:48,079
data back and that's

1097
00:42:52,230 --> 00:42:49,680
that that's the other side of the story

1098
00:42:56,470 --> 00:42:53,829
okay we'll um we'll give the last

1099
00:42:58,069 --> 00:42:56,480
question to james dean

1100
00:43:00,870 --> 00:42:58,079
thanks james dean florida today again

1101
00:43:03,589 --> 00:43:00,880
and and hans if if you should

1102
00:43:04,790 --> 00:43:03,599
pull this off and and get an intact

1103
00:43:06,470 --> 00:43:04,800
recovery

1104
00:43:08,950 --> 00:43:06,480
of the booster i was just wondering if

1105
00:43:11,190 --> 00:43:08,960
you could sort of lay out next steps um

1106
00:43:12,390 --> 00:43:11,200
how soon might we see an attempt to come

1107
00:43:14,550 --> 00:43:12,400
back to land

1108
00:43:16,150 --> 00:43:14,560
and just sort of what's the company's

1109
00:43:19,190 --> 00:43:16,160
you know thoughts about what's realistic

1110
00:43:20,630 --> 00:43:19,200
about a land landing on land and and you

1111
00:43:23,349 --> 00:43:20,640
know potentially achieving that that

1112
00:43:25,270 --> 00:43:23,359
reusable booster so um i i guess it

1113
00:43:27,270 --> 00:43:25,280

depends largely on how this experiment

1114
00:43:29,430 --> 00:43:27,280
works out and we as i said earlier we do

1115
00:43:31,589 --> 00:43:29,440
the step by step so we look at the

1116
00:43:34,069 --> 00:43:31,599
results of this one and then we um

1117
00:43:36,710 --> 00:43:34,079
we adjust the timeline or or you know

1118
00:43:38,950 --> 00:43:36,720
make make modifications or do

1119
00:43:40,870 --> 00:43:38,960
basically improvements and

1120
00:43:42,550 --> 00:43:40,880
the overall goal is uh to get back to

1121
00:43:44,550 --> 00:43:42,560
land by the end of the end of this year

1122
00:43:47,030 --> 00:43:44,560
however that's a a

1123
00:43:48,790 --> 00:43:47,040
a challenge um and

1124
00:43:52,950 --> 00:43:48,800
you know if we pull this off as you say

1125
00:43:56,550 --> 00:43:54,390
i'm sorry quick follow-up but but with

1126
00:43:58,069 --> 00:43:56,560
the the fur the the landing back on land

1127
00:44:00,710 --> 00:43:58,079
is that definitely would that be done

1128
00:44:02,309 --> 00:44:00,720
here or could it be done other places so

1129
00:44:03,990 --> 00:44:02,319
that's that's currently an evaluation

1130
00:44:07,190 --> 00:44:04,000
we're looking at uh different landing

1131
00:44:07,200 --> 00:44:12,950
the next falcon 9-2

1132
00:44:17,990 --> 00:44:15,510
yes i think so but don't quote me on

1133
00:44:21,190 --> 00:44:19,670
and i know i should

1134
00:44:25,349 --> 00:44:21,200
um we'll go ahead and take another

1135
00:44:28,710 --> 00:44:26,950
quick follow-up to irene's question i

1136
00:44:30,790 --> 00:44:28,720
was just wondering if you know you're

1137
00:44:33,670 --> 00:44:30,800
starting to fly commercial missions um

1138
00:44:35,589 --> 00:44:33,680

have has any of the the customers voice

1139
00:44:37,750 --> 00:44:35,599
any concerns about the landing legs or

1140
00:44:38,870 --> 00:44:37,760
they're totally on board with it or you

1141
00:44:41,349 --> 00:44:38,880
know is there been any of that kind of

1142
00:44:43,109 --> 00:44:41,359
dynamic at play or concerns about them

1143
00:44:45,430 --> 00:44:43,119
it's pretty much like what mike mike

1144
00:44:47,349 --> 00:44:45,440
saffordini said earlier um you know

1145
00:44:49,030 --> 00:44:47,359
there's there's an evaluation on on on

1146
00:44:50,870 --> 00:44:49,040
the risk basically and

1147
00:44:52,309 --> 00:44:50,880
we did all the right tests and all the

1148
00:44:53,190 --> 00:44:52,319
right analysis

1149
00:44:55,190 --> 00:44:53,200
we

1150
00:44:56,630 --> 00:44:55,200
provide the insight into that

1151
00:44:59,109 --> 00:44:56,640
and

1152
00:45:03,750 --> 00:44:59,119
then

1153
00:45:05,589 --> 00:45:03,760
is being approved by the customer so

1154
00:45:07,190 --> 00:45:05,599
this this is not not something that we

1155
00:45:09,910 --> 00:45:07,200
just just do it's

1156
00:45:13,430 --> 00:45:11,190
yeah okay uh

1157
00:45:15,349 --> 00:45:13,440
sorry i'm done you're done okay uh we're

1158
00:45:19,109 --> 00:45:15,359
gonna go ahead and close uh the headline

1159
00:45:22,069 --> 00:45:19,119
is spacex is go for launch yes uh 4 58

1160
00:45:24,230 --> 00:45:22,079
p.m tomorrow our next televised event

1161
00:45:25,829 --> 00:45:24,240
from the same room here at 2 p.m eastern

1162
00:45:28,470 --> 00:45:25,839
time will be the spacex science and

1163
00:45:31,190 --> 00:45:28,480

technology cargo news conference

1164
00:45:33,109 --> 00:45:31,200
if anyone is willing and interested in

1165
00:45:37,030 --> 00:45:33,119
participating by the phone bridge please