1
00:00:07,590 --> 00:00:05,590
well good morning everybody and welcome

2
00:00:10,870 --> 00:00:07,600
to nasa's johnson space center here in

3
00:00:12,629 --> 00:00:10,880
houston for today's status for

4
00:00:13,230 --> 00:00:12,639
discovery's preparations for launch on

5
00:00:15,350 --> 00:00:13,240
the

6
00:00:17,029 --> 00:00:15,360
sts-133 mission

7
00:00:18,710 --> 00:00:17,039
joining our briefers today here in

8
00:00:20,950 --> 00:00:18,720
houston we have john shannon who's the

9
00:00:22,790 --> 00:00:20,960
space shuttle program manager and mike

10
00:00:25,429 --> 00:00:22,800
sufferdini who is the international

11
00:00:28,070 --> 00:00:25,439
space station program manager but we'll

12
00:00:30,310 --> 00:00:28,080
start our briefing today with comments

13
00:00:32,790 --> 00:00:30,320

from the associate administrator for

14
00:00:35,350 --> 00:00:32,800
space operations bill gerstenmaier he's

15
00:00:37,270 --> 00:00:35,360
actually located at nasa headquarters in

16
00:00:38,549 --> 00:00:37,280
washington d.c so we'll start up there

17
00:00:40,389 --> 00:00:38,559
with comments and then we'll come back

18
00:00:42,549 --> 00:00:40,399
here for comments and then take

19
00:00:48,869 --> 00:00:42,559
questions so with that i'll toss it to

20
00:00:53,430 --> 00:00:51,430
all right thank you kyle again it's our

21
00:00:55,110 --> 00:00:53,440
pleasure to talk to you today

22
00:00:57,430 --> 00:00:55,120
like we've talked about before is we

23
00:00:59,910 --> 00:00:57,440
want to kind of give you a continuous

24
00:01:02,630 --> 00:00:59,920
status and continuous briefing of

25
00:01:03,670 --> 00:01:02,640
what the work is going on with sts-133

26
00:01:05,750 --> 00:01:03,680
as we're

27
00:01:07,030 --> 00:01:05,760
progressing towards

28
00:01:08,390 --> 00:01:07,040
eventually getting that flight ready to

29
00:01:10,230 --> 00:01:08,400
go fly

30
00:01:12,710 --> 00:01:10,240
john and michael talk to you some more

31
00:01:14,469 --> 00:01:12,720
in details about what's going on and and

32
00:01:16,310 --> 00:01:14,479
john had a very detailed meeting

33
00:01:18,870 --> 00:01:16,320
yesterday with the prcb he'll give you

34
00:01:21,190 --> 00:01:18,880
some details of that um basically the

35
00:01:23,670 --> 00:01:21,200
teams have made very good progress so

36
00:01:25,350 --> 00:01:23,680
far they've done a lot of good analysis

37
00:01:26,870 --> 00:01:25,360
they've done a lot of good at forensics

38
00:01:28,950 --> 00:01:26,880

looking at the

39
00:01:30,550 --> 00:01:28,960
at the actual stringers that were

40
00:01:32,390 --> 00:01:30,560
cracked on the tank and in those

41
00:01:33,590 --> 00:01:32,400
activities so they've done a very very

42
00:01:34,310 --> 00:01:33,600
thorough job

43
00:01:36,310 --> 00:01:34,320
of

44
00:01:38,230 --> 00:01:36,320
looking at the data at hand and ready to

45
00:01:39,990 --> 00:01:38,240
move forward but i think we've kind of

46
00:01:41,190 --> 00:01:40,000
come to a point in the investigation

47
00:01:43,270 --> 00:01:41,200
where we need to do something a little

48
00:01:46,149 --> 00:01:43,280
bit different it doesn't look like just

49
00:01:48,149 --> 00:01:46,159
pure analysis and the data at hand is

50
00:01:50,870 --> 00:01:48,159
going to reveal what really occurred on

51
00:01:52,789 --> 00:01:50,880
this on this tank out on the launch pad

52
00:01:55,030 --> 00:01:52,799
and what will ultimately lead to flight

53
00:01:57,270 --> 00:01:55,040
rationale for us for the flight so i

54
00:01:58,789 --> 00:01:57,280
think it's time that the teams have

55
00:02:00,950 --> 00:01:58,799
recommended we step back a little bit

56
00:02:02,310 --> 00:02:00,960
and do some testing john i'll talk to

57
00:02:04,389 --> 00:02:02,320
you a little bit more in detail about

58
00:02:06,069 --> 00:02:04,399
the testing but there's basically two

59
00:02:07,749 --> 00:02:06,079
things that we would like to go do from

60
00:02:09,910 --> 00:02:07,759
a test standpoint

61
00:02:11,910 --> 00:02:09,920
we'd like to see if we can

62
00:02:13,830 --> 00:02:11,920
replicate what we think the most leading

63
00:02:16,869 --> 00:02:13,840

cause is of the failure

64
00:02:18,550 --> 00:02:16,879
so there'll be a set up at marshall or

65
00:02:20,229 --> 00:02:18,560
or new orleans where we'll actually

66
00:02:22,710 --> 00:02:20,239
build up a stringer panel the way we

67
00:02:23,990 --> 00:02:22,720
would have for tank for a

68
00:02:26,229 --> 00:02:24,000
for a tank

69
00:02:27,270 --> 00:02:26,239
then we'll actually put some defects in

70
00:02:29,270 --> 00:02:27,280
some

71
00:02:30,949 --> 00:02:29,280
edge of manufacturing tolerances into

72
00:02:33,190 --> 00:02:30,959
that device and then actually load it up

73
00:02:35,110 --> 00:02:33,200
and see if we can replicate a

74
00:02:37,430 --> 00:02:35,120
the crack that we saw during cryoloading

75
00:02:39,350 --> 00:02:37,440
during the the tanking so that will be

76
00:02:41,190 --> 00:02:39,360
one test that will get done and then

77
00:02:42,949 --> 00:02:41,200
we'd also like to do a test down at the

78
00:02:45,430 --> 00:02:42,959
cape where we actually load the tank

79
00:02:47,190 --> 00:02:45,440
with cryogenic uh propellant and then

80
00:02:48,550 --> 00:02:47,200
actually put some instrumentation on the

81
00:02:50,229 --> 00:02:48,560
tank put some strain gauges

82
00:02:51,830 --> 00:02:50,239
thermocouples

83
00:02:54,150 --> 00:02:51,840
some other devices on the tank to

84
00:02:56,470 --> 00:02:54,160
actually monitor how the tank actually

85
00:02:58,229 --> 00:02:56,480
loads up and that will serve to validate

86
00:02:59,990 --> 00:02:58,239
the math models and help us to better

87
00:03:01,670 --> 00:03:00,000
understand the environment that we see

88
00:03:04,070 --> 00:03:01,680

during loading and how that relates to

89
00:03:05,750 --> 00:03:04,080
the environment we see during launch so

90
00:03:07,270 --> 00:03:05,760
we'll kind of approach it two ways first

91
00:03:10,149 --> 00:03:07,280
of all understand

92
00:03:11,830 --> 00:03:10,159
what could have caused the crack from a

93
00:03:13,190 --> 00:03:11,840
kind of a root cause standpoint instead

94
00:03:15,270 --> 00:03:13,200
of just looking at the date at hand

95
00:03:17,430 --> 00:03:15,280
we'll actually do two tests to do that

96
00:03:19,110 --> 00:03:17,440
one we'll look at the the loading of the

97
00:03:21,350 --> 00:03:19,120
panel itself and the manufacturing

98
00:03:23,030 --> 00:03:21,360
defects the other test we'll look at the

99
00:03:25,190 --> 00:03:23,040
loading conditions actually on the tank

100
00:03:26,630 --> 00:03:25,200
out at the pad so we think between those

101
00:03:28,309 --> 00:03:26,640
two tests we should get enough

102
00:03:30,710 --> 00:03:28,319
information that we can actually move

103
00:03:33,270 --> 00:03:30,720
forward and head in the right direction

104
00:03:35,110 --> 00:03:33,280
so when we we laid in those those tests

105
00:03:36,949 --> 00:03:35,120
just kind of conceptually there's really

106
00:03:39,350 --> 00:03:36,959
no way we can get there before the

107
00:03:41,110 --> 00:03:39,360
december launch window so what we'd like

108
00:03:42,949 --> 00:03:41,120
to do now is just kind of take that off

109
00:03:44,309 --> 00:03:42,959
the table let john and his team do a

110
00:03:47,030 --> 00:03:44,319
little bit of planning over the next

111
00:03:50,229 --> 00:03:47,040
several days first part of next week

112
00:03:52,309 --> 00:03:50,239
and analyze the overall test plan and

113
00:03:53,350 --> 00:03:52,319

the workflow between now as we go

114
00:03:55,030 --> 00:03:53,360
forward

115
00:03:57,190 --> 00:03:55,040
so we're kind of setting the next launch

116
00:03:59,990 --> 00:03:57,200
date just tentatively around february

117
00:04:01,830 --> 00:04:00,000
3rd it will again let john's schedule

118
00:04:03,910 --> 00:04:01,840
and the work kind of flow out to see if

119
00:04:05,750 --> 00:04:03,920
that all can fit in the first look is it

120
00:04:07,509 --> 00:04:05,760
looks like it fits before february 3rd

121
00:04:09,509 --> 00:04:07,519
but before we pass judgment on that

122
00:04:11,270 --> 00:04:09,519
we'll let john and his team actually

123
00:04:13,589 --> 00:04:11,280
analyze the work ahead and figure out

124
00:04:15,670 --> 00:04:13,599
the right thing to go do

125
00:04:17,749 --> 00:04:15,680
so again i think the teams have done a

126
00:04:19,990 --> 00:04:17,759
tremendous job of doing the work it's

127
00:04:23,110 --> 00:04:20,000
time to pursue a different path and

128
00:04:25,270 --> 00:04:23,120
that's to head out with some test data

129
00:04:27,030 --> 00:04:25,280
i have a quote or kind of paraphrase

130
00:04:28,950 --> 00:04:27,040
from hugh dryden who used to do tests

131
00:04:31,590 --> 00:04:28,960
for nasa and it says you know the

132
00:04:33,590 --> 00:04:31,600
purpose of tests is to separate real

133
00:04:37,749 --> 00:04:33,600
from imagined problems

134
00:04:39,749 --> 00:04:37,759
and to reveal overlooked and unexpected

135
00:04:41,189 --> 00:04:39,759
problems so basically what we're going

136
00:04:42,950 --> 00:04:41,199
to do with these tests is we're going to

137
00:04:44,550 --> 00:04:42,960
make sure we didn't overlook anything

138
00:04:46,629 --> 00:04:44,560

we'll see if these tests can reveal any

139
00:04:48,390 --> 00:04:46,639
new information for us and it'll also

140
00:04:49,990 --> 00:04:48,400
help us sort out what the real problems

141
00:04:51,909 --> 00:04:50,000
are that we need to be working on versus

142
00:04:54,150 --> 00:04:51,919
ones that we just think theoretically

143
00:04:55,670 --> 00:04:54,160
may be there so these tests stand to

144
00:04:57,510 --> 00:04:55,680
really move us forward we're at that

145
00:04:58,950 --> 00:04:57,520
point in the in the troubleshooting

146
00:05:00,550 --> 00:04:58,960
where we need to go add these additional

147
00:05:02,390 --> 00:05:00,560
tests we'll take the time to do that and

148
00:05:04,870 --> 00:05:02,400
we'll get ready to go fly when it's time

149
00:05:07,590 --> 00:05:04,880
to go fly so with that i'll turn it over

150
00:05:08,870 --> 00:05:07,600
to uh to john and to mike down in

151
00:05:10,469 --> 00:05:08,880
houston and they'll give you some more

152
00:05:14,150 --> 00:05:10,479
details on the plans and then we'll be

153
00:05:16,870 --> 00:05:14,160
ready to answer your questions so john

154
00:05:18,469 --> 00:05:16,880
okay thanks a lot bill um and and that

155
00:05:20,870 --> 00:05:18,479
was a that was a good overview of where

156
00:05:23,350 --> 00:05:20,880
we are you know we got into the uh

157
00:05:24,870 --> 00:05:23,360
into the technical meeting yesterday our

158
00:05:26,710 --> 00:05:24,880
program requirements control board the

159
00:05:28,469 --> 00:05:26,720
prcb

160
00:05:30,870 --> 00:05:28,479
and the team is has been making very

161
00:05:33,110 --> 00:05:30,880
significant progress along the the plan

162
00:05:34,469 --> 00:05:33,120
that we had laid out and if you remember

163
00:05:37,430 --> 00:05:34,479

when i talked to you before and when

164
00:05:38,550 --> 00:05:37,440
this problem first occurred

165
00:05:41,909 --> 00:05:38,560
we were

166
00:05:44,550 --> 00:05:41,919
uh expecting to find an obvious problem

167
00:05:46,310 --> 00:05:44,560
some kind of a a flaw in the material

168
00:05:48,710 --> 00:05:46,320
some kind of a crack that had been

169
00:05:51,990 --> 00:05:48,720
missed during the uh the construction of

170
00:05:53,909 --> 00:05:52,000
the uh of the inner tank area

171
00:05:56,469 --> 00:05:53,919
and as we have gone through the

172
00:05:59,350 --> 00:05:56,479
investigation we're not finding that

173
00:06:01,189 --> 00:05:59,360
obvious flaw or that obvious problem

174
00:06:03,749 --> 00:06:01,199
we're going through a very rigorous

175
00:06:05,590 --> 00:06:03,759
fault tree methodology where you lay out

176
00:06:07,830 --> 00:06:05,600
all the potential factors that could

177
00:06:09,909 --> 00:06:07,840
cause this and then through test or

178
00:06:11,749 --> 00:06:09,919
analysis work through them and either

179
00:06:13,749 --> 00:06:11,759
leave them on the fault trees potential

180
00:06:15,590 --> 00:06:13,759
contributors or take them off if

181
00:06:16,950 --> 00:06:15,600
appropriate

182
00:06:18,550 --> 00:06:16,960
the team has done a lot of things in

183
00:06:20,629 --> 00:06:18,560
that fall tree investigation like we

184
00:06:22,150 --> 00:06:20,639
have we have done our fracture analysis

185
00:06:23,350 --> 00:06:22,160
where you actually look at the crack

186
00:06:25,510 --> 00:06:23,360
surface

187
00:06:27,110 --> 00:06:25,520
and it showed to

188
00:06:28,230 --> 00:06:27,120

a little bit of our surprise that there

189
00:06:31,430 --> 00:06:28,240
was no

190
00:06:33,189 --> 00:06:31,440
uh initial crack in the in the stringer

191
00:06:35,590 --> 00:06:33,199
that was

192
00:06:37,590 --> 00:06:35,600
exacerbated during the the bending

193
00:06:38,550 --> 00:06:37,600
effects of loading the cryo into the

194
00:06:40,629 --> 00:06:38,560
tank

195
00:06:42,070 --> 00:06:40,639
um so that that was a little bit of a

196
00:06:45,510 --> 00:06:42,080
surprise to us

197
00:06:48,790 --> 00:06:45,520
uh we've also uh finished our uh our

198
00:06:51,029 --> 00:06:48,800
initial look at the loads that the that

199
00:06:54,150 --> 00:06:51,039
stringer area would see

200
00:06:55,830 --> 00:06:54,160
when we put liquid oxygen into the tank

201
00:06:57,909 --> 00:06:55,840
and we think we understand that we've

202
00:07:00,550 --> 00:06:57,919
compared that to the design

203
00:07:02,629 --> 00:07:00,560
and the design looks very robust

204
00:07:04,950 --> 00:07:02,639
it does not look like it should be

205
00:07:07,830 --> 00:07:04,960
susceptible to having a crack

206
00:07:09,189 --> 00:07:07,840
if it is assembled properly

207
00:07:10,629 --> 00:07:09,199
when the

208
00:07:11,589 --> 00:07:10,639
initial

209
00:07:13,830 --> 00:07:11,599
loading

210
00:07:15,350 --> 00:07:13,840
occurs on the launch pad

211
00:07:18,150 --> 00:07:15,360
we've looked at the material from that

212
00:07:21,189 --> 00:07:18,160
stringer and the material is is

213
00:07:23,029 --> 00:07:21,199

right down the middle for hardness

214
00:07:24,309 --> 00:07:23,039
for tensile strength for all the

215
00:07:25,909 --> 00:07:24,319
different

216
00:07:28,390 --> 00:07:25,919
parameters that we would look at to see

217
00:07:29,589 --> 00:07:28,400
if it was if it had a problem

218
00:07:31,589 --> 00:07:29,599
so

219
00:07:32,790 --> 00:07:31,599
what has happened is we we've hit a

220
00:07:34,710 --> 00:07:32,800
point where

221
00:07:37,510 --> 00:07:34,720
there is no obvious

222
00:07:40,469 --> 00:07:37,520
uh answer as to what occurred

223
00:07:42,150 --> 00:07:40,479
and uh what that means is that we have

224
00:07:44,550 --> 00:07:42,160
to take the next step

225
00:07:45,830 --> 00:07:44,560
and uh we have to look uh

226
00:07:47,749 --> 00:07:45,840
in

227
00:07:50,629 --> 00:07:47,759
greater detail

228
00:07:52,230 --> 00:07:50,639
to understand what types of stresses you

229
00:07:53,749 --> 00:07:52,240
could put in these stringers during the

230
00:07:55,670 --> 00:07:53,759
assembly process

231
00:07:57,589 --> 00:07:55,680
see how they could line up and add

232
00:07:59,350 --> 00:07:57,599
stress to that stringer

233
00:08:01,430 --> 00:07:59,360
and we have to do that through a

234
00:08:02,869 --> 00:08:01,440
demonstration analysis is not going to

235
00:08:05,029 --> 00:08:02,879
get us there

236
00:08:07,189 --> 00:08:05,039
bill bill quoted some test philosophy

237
00:08:09,589 --> 00:08:07,199
you know we got last week the

238
00:08:11,430 --> 00:08:09,599

the famous quote that you know one good

239
00:08:13,589 --> 00:08:11,440
test is equal to a thousand expert

240
00:08:15,350 --> 00:08:13,599
opinions right and so we're at the point

241
00:08:18,629 --> 00:08:15,360
where we need that test we need that

242
00:08:20,309 --> 00:08:18,639
fine level of data and uh to understand

243
00:08:22,309 --> 00:08:20,319
exactly how those assembly stresses

244
00:08:23,749 --> 00:08:22,319
could line up to give us a crack when we

245
00:08:25,430 --> 00:08:23,759
initially loaded

246
00:08:26,790 --> 00:08:25,440
and that's one side of it is is to

247
00:08:29,110 --> 00:08:26,800
understand how we could have

248
00:08:32,709 --> 00:08:29,120
pre-stressed the part the other piece of

249
00:08:34,949 --> 00:08:32,719
it is we really need to understand what

250
00:08:37,190 --> 00:08:34,959
the loading environment does to that

251
00:08:38,949 --> 00:08:37,200
stringer we need to understand to the to

252
00:08:40,790 --> 00:08:38,959
a very

253
00:08:43,589 --> 00:08:40,800
fine level

254
00:08:45,509 --> 00:08:43,599
exactly how much stress is put in that

255
00:08:47,590 --> 00:08:45,519
part at loading because if we're going

256
00:08:49,829 --> 00:08:47,600
to have an assembly

257
00:08:52,070 --> 00:08:49,839
condition that adds stress to it well we

258
00:08:54,310 --> 00:08:52,080
need to know exactly what cryoloading

259
00:08:56,870 --> 00:08:54,320
stress there is to determine if that is

260
00:08:58,590 --> 00:08:56,880
really a feasible root cause for what

261
00:09:00,949 --> 00:08:58,600
happened on the

262
00:09:03,670 --> 00:09:00,959
sts-133 tank

263
00:09:06,310 --> 00:09:03,680

and it's like bill said analysis can

264
00:09:08,550 --> 00:09:06,320
only get you so far and it's time to go

265
00:09:10,949 --> 00:09:08,560
test and that was the recommendation to

266
00:09:13,350 --> 00:09:10,959
bill and the senior leadership is

267
00:09:14,870 --> 00:09:13,360
that i need to to better understand the

268
00:09:16,310 --> 00:09:14,880
conditions so that i can understand my

269
00:09:21,590 --> 00:09:16,320
root cause

270
00:09:23,509 --> 00:09:21,600
i have an adequate screening capability

271
00:09:26,790 --> 00:09:23,519
to verify that i don't have this problem

272
00:09:29,030 --> 00:09:26,800
anywhere else and those two tests are

273
00:09:29,750 --> 00:09:29,040
going to to give me that data that i

274
00:09:31,910 --> 00:09:29,760
need

275
00:09:33,590 --> 00:09:31,920
we'll assemble it we'll uh we'll

276
00:09:36,070 --> 00:09:33,600
introduce flaws in the assembly that we

277
00:09:37,350 --> 00:09:36,080
think are reasonable that could have

278
00:09:40,310 --> 00:09:37,360
happened

279
00:09:42,949 --> 00:09:40,320
at the at the plant uh we'll understand

280
00:09:44,470 --> 00:09:42,959
through the instrumented tanking test

281
00:09:45,509 --> 00:09:44,480
uh exactly

282
00:09:46,949 --> 00:09:45,519
what

283
00:09:48,389 --> 00:09:46,959
level of stress we're putting on that

284
00:09:49,269 --> 00:09:48,399
stringer we'll add those two together

285
00:09:51,430 --> 00:09:49,279
and see if we could have had the

286
00:09:53,190 --> 00:09:51,440
fracture of the part

287
00:09:55,750 --> 00:09:53,200
now the tanking test

288
00:09:57,990 --> 00:09:55,760

we've been talking about for uh for a

289
00:09:59,910 --> 00:09:58,000
little over a week

290
00:10:01,269 --> 00:09:59,920
we had considered just doing a tanking

291
00:10:02,870 --> 00:10:01,279
test with no

292
00:10:04,550 --> 00:10:02,880
instrumentation on it basically you

293
00:10:05,590 --> 00:10:04,560
would load it up like you would for

294
00:10:08,470 --> 00:10:05,600
flight

295
00:10:10,630 --> 00:10:08,480
we would go out afterwards and x-ray the

296
00:10:12,870 --> 00:10:10,640
repaired area and and the other

297
00:10:15,269 --> 00:10:12,880
stringers and see if they

298
00:10:16,630 --> 00:10:15,279
did as expected during the during the

299
00:10:18,630 --> 00:10:16,640
tanking test

300
00:10:19,509 --> 00:10:18,640
that's a little bit too

301
00:10:20,470 --> 00:10:19,519
uh

302
00:10:23,269 --> 00:10:20,480
too

303
00:10:25,750 --> 00:10:23,279
uh gross of a test it it doesn't give us

304
00:10:27,829 --> 00:10:25,760
the fine level of detail that we need um

305
00:10:29,590 --> 00:10:27,839
so we're in discussions today tomorrow

306
00:10:31,590 --> 00:10:29,600
sunday i believe like on monday or

307
00:10:32,630 --> 00:10:31,600
tuesday we'll have a really good plan

308
00:10:34,550 --> 00:10:32,640
for

309
00:10:37,269 --> 00:10:34,560
where we want to put instrumentation and

310
00:10:38,870 --> 00:10:37,279
the instrumentation is along three

311
00:10:41,350 --> 00:10:38,880
different paths the first is strain

312
00:10:43,590 --> 00:10:41,360
gauges to directly measure the stress in

313
00:10:45,910 --> 00:10:43,600

the particular part and we'll put strain

314
00:10:48,470 --> 00:10:45,920
gauges on the inside and outside of the

315
00:10:50,150 --> 00:10:48,480
repaired stringers of stringers that

316
00:10:52,470 --> 00:10:50,160
have not been repaired and then some

317
00:10:53,829 --> 00:10:52,480
stringers that are just off to the side

318
00:10:55,990 --> 00:10:53,839
to make sure that there's nothing in

319
00:10:57,110 --> 00:10:56,000
this localized area that is is having an

320
00:10:58,389 --> 00:10:57,120
issue

321
00:10:59,750 --> 00:10:58,399
so we'll have strain gauges we'll have

322
00:11:01,269 --> 00:10:59,760
thermocouples

323
00:11:03,350 --> 00:11:01,279
because understanding the thermal

324
00:11:05,430 --> 00:11:03,360
environment and the boundary conditions

325
00:11:07,750 --> 00:11:05,440
on this structure is critical to

326
00:11:09,269 --> 00:11:07,760
understanding the stress level in it so

327
00:11:11,269 --> 00:11:09,279
we will put thermocouples in there that

328
00:11:13,829 --> 00:11:11,279
will give us temperature

329
00:11:14,949 --> 00:11:13,839
readings throughout the entire loading

330
00:11:17,030 --> 00:11:14,959
condition

331
00:11:19,590 --> 00:11:17,040
and the last one is is an optical

332
00:11:21,750 --> 00:11:19,600
assessment we're going to

333
00:11:24,069 --> 00:11:21,760
to

334
00:11:26,710 --> 00:11:24,079
have cameras basically stereo vision

335
00:11:27,829 --> 00:11:26,720
cameras looking at the tank and we're

336
00:11:29,910 --> 00:11:27,839
going to put

337
00:11:31,590 --> 00:11:29,920
markings on the tank so that we can

338
00:11:33,990 --> 00:11:31,600

understand two things one is the tank

339
00:11:35,670 --> 00:11:34,000
shrinkage that you get from the cryo we

340
00:11:37,350 --> 00:11:35,680
it shrinks about half an inch radially

341
00:11:39,910 --> 00:11:37,360
but we need to understand that

342
00:11:42,470 --> 00:11:39,920
even better and it also as you load up

343
00:11:45,430 --> 00:11:42,480
the lox tank and it fills up you get a

344
00:11:47,110 --> 00:11:45,440
slight rotational component on the on

345
00:11:47,829 --> 00:11:47,120
the flange connecting to the inner tank

346
00:11:50,310 --> 00:11:47,839
so

347
00:11:51,590 --> 00:11:50,320
we're hoping that the optical piece plus

348
00:11:57,750 --> 00:11:51,600
the

349
00:12:00,550 --> 00:11:57,760
stress level is in those stringers and

350
00:12:03,110 --> 00:12:00,560
then that gives you the baseline stress

351
00:12:05,430 --> 00:12:03,120
we believe the design is is robust and

352
00:12:07,590 --> 00:12:05,440
should not fracture under that stress

353
00:12:11,590 --> 00:12:07,600
we'll we'll verify that

354
00:12:13,990 --> 00:12:11,600
and then we'll add the assembly

355
00:12:16,949 --> 00:12:14,000
issues that you could potentially have

356
00:12:19,670 --> 00:12:16,959
to see if we can get to a root cause

357
00:12:21,509 --> 00:12:19,680
we were hopeful early on that that

358
00:12:23,190 --> 00:12:21,519
it would be some very obvious kind of

359
00:12:25,110 --> 00:12:23,200
flaw didn't happen

360
00:12:27,030 --> 00:12:25,120
then we were hopeful that just a simple

361
00:12:29,750 --> 00:12:27,040
cryo tanking

362
00:12:32,470 --> 00:12:29,760
would cover us for any ascent loads it's

363
00:12:34,150 --> 00:12:32,480

very close but it's not quite there

364
00:12:35,670 --> 00:12:34,160
so now we again we have to go to that

365
00:12:37,910 --> 00:12:35,680
next level and really understand this

366
00:12:39,910 --> 00:12:37,920
problem to to get the root cause and

367
00:12:42,550 --> 00:12:39,920
determine what our screening criteria is

368
00:12:43,990 --> 00:12:42,560
to uh to fly that tank confidently so

369
00:12:46,550 --> 00:12:44,000
that's the next step we're we're

370
00:12:48,150 --> 00:12:46,560
marching down uh it's unfortunate that

371
00:12:49,670 --> 00:12:48,160
uh that we're not making the december

372
00:12:51,990 --> 00:12:49,680
launch window i think as mike will tell

373
00:12:54,069 --> 00:12:52,000
you we have we have good program plans

374
00:12:55,750 --> 00:12:54,079
to uh to overcome that

375
00:12:57,190 --> 00:12:55,760
we want to make sure though that uh that

376
00:13:00,389 --> 00:12:57,200
we do this um

377
00:13:02,470 --> 00:13:00,399
exactly right and uh and uh and step

378
00:13:04,310 --> 00:13:02,480
along the the path and as we learn more

379
00:13:05,990 --> 00:13:04,320
about the different conditions and we'll

380
00:13:08,069 --> 00:13:06,000
we'll make decisions as to as to where

381
00:13:09,750 --> 00:13:08,079
we go from there so that's that's our

382
00:13:11,430 --> 00:13:09,760
current status and i think mike was

383
00:13:13,110 --> 00:13:11,440
going to tell you about the the impacts

384
00:13:16,389 --> 00:13:13,120
that that whole plan will have on the

385
00:13:20,470 --> 00:13:18,790
so good morning uh before we get into a

386
00:13:23,670 --> 00:13:20,480
discussion about

387
00:13:25,269 --> 00:13:23,680
with having 133 in the early february

388
00:13:29,110 --> 00:13:25,279

time frame i'll talk a little bit about

389
00:13:30,310 --> 00:13:29,120
near-term activities on board iss

390
00:13:33,110 --> 00:13:30,320
as you know

391
00:13:36,230 --> 00:13:33,120
our spacex friends are out there

392
00:13:37,750 --> 00:13:36,240
planning a hot fire test today

393
00:13:39,829 --> 00:13:37,760
so we're looking forward to that this

394
00:13:42,310 --> 00:13:39,839
particular flight is what we refer to as

395
00:13:44,470 --> 00:13:42,320
demo one it's one of three demonstration

396
00:13:46,870 --> 00:13:44,480
flights that will occur over the next

397
00:13:50,470 --> 00:13:46,880
year before the first actual cargo

398
00:13:52,230 --> 00:13:50,480
flight flies to iss towards the end of

399
00:13:53,590 --> 00:13:52,240
of 2011.

400
00:13:54,870 --> 00:13:53,600
so that's very important to us as a

401
00:13:57,509 --> 00:13:54,880
program

402
00:13:59,509 --> 00:13:57,519
in addition to that on the 20th of

403
00:14:01,110 --> 00:13:59,519
december we're going to do a test with

404
00:14:02,389 --> 00:14:01,120
the special purpose dexterous

405
00:14:03,670 --> 00:14:02,399
manipulator

406
00:14:05,269 --> 00:14:03,680
on orbit

407
00:14:07,350 --> 00:14:05,279
this test is

408
00:14:09,750 --> 00:14:07,360
in order to prepare ourselves for the

409
00:14:12,310 --> 00:14:09,760
removal of a couple of orus that are

410
00:14:14,710 --> 00:14:12,320
flying up on htv2 we're actually going

411
00:14:18,150 --> 00:14:14,720
to move a couple of what we refer to as

412
00:14:20,150 --> 00:14:18,160
ctcs or large boxes outside that hold

413
00:14:23,750 --> 00:14:20,160

multiple smaller

414
00:14:25,269 --> 00:14:23,760
smaller oru's orbital replacement units

415
00:14:27,350 --> 00:14:25,279
so that's a very important test for us

416
00:14:29,030 --> 00:14:27,360
just to exercise the system and make

417
00:14:32,069 --> 00:14:29,040
sure we're prepared

418
00:14:33,990 --> 00:14:32,079
for the htv flight that will dock on

419
00:14:36,069 --> 00:14:34,000
january 27th

420
00:14:38,949 --> 00:14:36,079
of course

421
00:14:41,509 --> 00:14:38,959
the before that occurs uh we have the

422
00:14:45,670 --> 00:14:41,519
crew the next crew coming to orbit uh

423
00:14:47,030 --> 00:14:45,680
the 25 soyuz crew of katie coleman

424
00:14:49,829 --> 00:14:47,040
dimitri

425
00:14:51,269 --> 00:14:49,839
condrativ and paulo

426
00:14:53,350 --> 00:14:51,279
nespoli

427
00:14:54,790 --> 00:14:53,360
they actually landed in baikonur today

428
00:14:56,870 --> 00:14:54,800
and they're they're doing their

429
00:14:59,189 --> 00:14:56,880
preparations for a

430
00:15:01,750 --> 00:14:59,199
15th of december launch

431
00:15:03,590 --> 00:15:01,760
and then once they get to orbit the plan

432
00:15:05,910 --> 00:15:03,600
is to go ahead and do this

433
00:15:08,310 --> 00:15:05,920
this spdm test that i talked about

434
00:15:10,629 --> 00:15:08,320
earlier so all of those

435
00:15:13,829 --> 00:15:10,639
plans are in work we've modified the

436
00:15:16,949 --> 00:15:13,839
crew time since we don't have 133 there

437
00:15:19,430 --> 00:15:16,959
we've pulled up some of the work we have

438
00:15:22,230 --> 00:15:19,440

taken a couple of steps

439
00:15:23,750 --> 00:15:22,240
in preparation for sts-133 one was to

440
00:15:26,790 --> 00:15:23,760
remove a

441
00:15:29,030 --> 00:15:26,800
cdra bed which we plan to return on on

442
00:15:30,470 --> 00:15:29,040
133 so it's been removed that work is

443
00:15:31,670 --> 00:15:30,480
behind us now

444
00:15:33,430 --> 00:15:31,680
um

445
00:15:37,350 --> 00:15:33,440
so when we so let's talk a little bit

446
00:15:38,710 --> 00:15:37,360
about 133 in the february time frame

447
00:15:40,470 --> 00:15:38,720
there's a number of things you look at

448
00:15:41,829 --> 00:15:40,480
with any flight when it moves around one

449
00:15:44,069 --> 00:15:41,839
is of course

450
00:15:45,509 --> 00:15:44,079
the items on board and and how it may or

451
00:15:47,189 --> 00:15:45,519
may not affect your ability to do

452
00:15:49,430 --> 00:15:47,199
operations either either from a

453
00:15:51,189 --> 00:15:49,440
logistics standpoint if you had planned

454
00:15:52,710 --> 00:15:51,199
operations that required an item that

455
00:15:54,470 --> 00:15:52,720
was coming up

456
00:15:56,230 --> 00:15:54,480
the other is how's it fit in the vehicle

457
00:15:58,550 --> 00:15:56,240
traffic which we work very hard these

458
00:16:00,790 --> 00:15:58,560
days to try to squeeze things in when

459
00:16:02,310 --> 00:16:00,800
there's holes as opposed to just

460
00:16:03,749 --> 00:16:02,320
having one flight slip and then

461
00:16:05,910 --> 00:16:03,759
everybody slip to the right that's a

462
00:16:07,590 --> 00:16:05,920
much more challenging

463
00:16:09,189 --> 00:16:07,600

way to do business and we try not to

464
00:16:11,670 --> 00:16:09,199
operate that way and then the last of

465
00:16:12,710 --> 00:16:11,680
course is the impact to the timeline on

466
00:16:15,110 --> 00:16:12,720
orbit

467
00:16:17,829 --> 00:16:15,120
this particular flight although very

468
00:16:19,430 --> 00:16:17,839
heavily loaded with supplies for iss

469
00:16:22,310 --> 00:16:19,440
does not have that much in the way of

470
00:16:24,150 --> 00:16:22,320
day-to-day consumables most of our food

471
00:16:26,310 --> 00:16:24,160
for the near term is flying up on the

472
00:16:28,629 --> 00:16:26,320
htv and the atvs

473
00:16:32,069 --> 00:16:28,639
that are flying up here early part of

474
00:16:33,350 --> 00:16:32,079
next year and the remainder consumables

475
00:16:35,350 --> 00:16:33,360
other than

476
00:16:36,949 --> 00:16:35,360
those for the urine processing assembly

477
00:16:38,790 --> 00:16:36,959
are coming up on other vehicles as well

478
00:16:41,189 --> 00:16:38,800
so we're in really good shape

479
00:16:43,749 --> 00:16:41,199
consumable wise

480
00:16:46,230 --> 00:16:43,759
as i mentioned earlier the tanks in the

481
00:16:47,189 --> 00:16:46,240
u in the urine processor

482
00:16:49,110 --> 00:16:47,199
that we

483
00:16:51,030 --> 00:16:49,120
that collects the brine over time that

484
00:16:52,069 --> 00:16:51,040
we have to replace and bring home and

485
00:16:53,749 --> 00:16:52,079
empty

486
00:16:55,670 --> 00:16:53,759
and bring back to orbit we're down to

487
00:16:57,430 --> 00:16:55,680
our last tank on orbit

488
00:17:01,110 --> 00:16:57,440

we're operating in a

489
00:17:03,990 --> 00:17:01,120
in a slower mode that primarily is uh

490
00:17:06,390 --> 00:17:04,000
its purpose is to to utilize the up on a

491
00:17:08,150 --> 00:17:06,400
semi-regular basis in order to keep the

492
00:17:10,150 --> 00:17:08,160
system working

493
00:17:13,510 --> 00:17:10,160
as opposed to the level that we would do

494
00:17:16,390 --> 00:17:13,520
to process all the urine that is

495
00:17:18,949 --> 00:17:16,400
produced by the crew members on board

496
00:17:21,429 --> 00:17:18,959
this extends the life of the upa and and

497
00:17:23,429 --> 00:17:21,439
uh and of course the downside that of

498
00:17:25,029 --> 00:17:23,439
course causes us not to produce as much

499
00:17:26,549 --> 00:17:25,039
water on orbit which is not a problem

500
00:17:27,510 --> 00:17:26,559
for us we have quite a bit of water on

501
00:17:29,830 --> 00:17:27,520
board

502
00:17:32,470 --> 00:17:29,840
but it also consumes yeti vase which are

503
00:17:34,710 --> 00:17:32,480
the tanks that we put urine in if

504
00:17:36,630 --> 00:17:34,720
if we're not processing it

505
00:17:38,430 --> 00:17:36,640
and so we're managing those consumables

506
00:17:40,230 --> 00:17:38,440
very closely

507
00:17:41,990 --> 00:17:40,240
sts-133

508
00:17:45,110 --> 00:17:42,000
had the advantage of bringing up five of

509
00:17:47,510 --> 00:17:45,120
these rftas or their large tanks and so

510
00:17:50,310 --> 00:17:47,520
we would look forward to those coming up

511
00:17:52,950 --> 00:17:50,320
however both the the htv that's coming

512
00:17:55,669 --> 00:17:52,960
up uh in january and the atv coming up

513
00:17:57,190 --> 00:17:55,679

in february both have rftas as well so

514
00:17:59,590 --> 00:17:57,200
from that respect from a logistics

515
00:18:01,830 --> 00:17:59,600
standpoint we're in good shape

516
00:18:04,310 --> 00:18:01,840
from a vehicle traffic standpoint the

517
00:18:06,630 --> 00:18:04,320
the february 3rd date is actually chosen

518
00:18:07,830 --> 00:18:06,640
because it fits inside the the traffic

519
00:18:09,350 --> 00:18:07,840
pattern

520
00:18:10,710 --> 00:18:09,360
if you will

521
00:18:14,470 --> 00:18:10,720
htv

522
00:18:17,270 --> 00:18:14,480
docks on the 27th of january

523
00:18:20,150 --> 00:18:17,280
and then the 41 progress vehicle arrives

524
00:18:23,270 --> 00:18:20,160
on the 31st of january

525
00:18:24,870 --> 00:18:23,280
we do have to do some maneuvers with htv

526
00:18:27,190 --> 00:18:24,880
with this new plan

527
00:18:28,789 --> 00:18:27,200
because it it bursts to the native port

528
00:18:30,950 --> 00:18:28,799
we can't have a vehicle on the native

529
00:18:31,909 --> 00:18:30,960
port of no two when the when the shuttle

530
00:18:32,950 --> 00:18:31,919
arrives

531
00:18:35,029 --> 00:18:32,960
and so

532
00:18:36,870 --> 00:18:35,039
we have a plan to maneuver it to the

533
00:18:38,470 --> 00:18:36,880
zenith port to get it out of the way uh

534
00:18:40,470 --> 00:18:38,480
when the shuttle before the shuttle

535
00:18:41,270 --> 00:18:40,480
arrives and that that will be completed

536
00:18:43,350 --> 00:18:41,280
by

537
00:18:44,789 --> 00:18:43,360
february 2nd and then that's what opens

538
00:18:47,430 --> 00:18:44,799

up the window for the shuttle to come

539
00:18:49,110 --> 00:18:47,440
dock on february 3rd

540
00:18:51,590 --> 00:18:49,120
we have a little work a little analysis

541
00:18:54,710 --> 00:18:51,600
to do to to be able to do that maneuver

542
00:18:57,750 --> 00:18:54,720
but it's it's well within our capability

543
00:19:00,070 --> 00:18:57,760
um and and and that is in fact probably

544
00:19:02,630 --> 00:19:00,080
the biggest uh change in our plan with

545
00:19:03,990 --> 00:19:02,640
the 133 flying in this timeline in this

546
00:19:07,430 --> 00:19:04,000
time frame

547
00:19:08,549 --> 00:19:07,440
before the plan was to have have 133

548
00:19:11,270 --> 00:19:08,559
come up

549
00:19:13,510 --> 00:19:11,280
um and it was going to uh

550
00:19:15,909 --> 00:19:13,520
we were going to rearrange the stowage

551
00:19:18,070 --> 00:19:15,919
with the pmm on orbit and in addition to

552
00:19:20,950 --> 00:19:18,080
that it brings up a pallet and this

553
00:19:22,710 --> 00:19:20,960
pallet has the locations where the oru's

554
00:19:24,950 --> 00:19:22,720
that are coming up on the htv were going

555
00:19:27,270 --> 00:19:24,960
to be put so so we have this

556
00:19:28,950 --> 00:19:27,280
relationship between now the htv and the

557
00:19:31,350 --> 00:19:28,960
shuttle and we need to make sure that

558
00:19:33,110 --> 00:19:31,360
the htv is there

559
00:19:34,950 --> 00:19:33,120
at least during the period of time when

560
00:19:37,990 --> 00:19:34,960
the shuttle's there so we can remove the

561
00:19:40,230 --> 00:19:38,000
orus out of the htv the large external

562
00:19:41,590 --> 00:19:40,240
oil used out of the htv and install them

563
00:19:43,110 --> 00:19:41,600

in the pallet that the shuttle will

564
00:19:45,990 --> 00:19:43,120
bring up

565
00:19:48,310 --> 00:19:46,000
so to order to ensure that we have

566
00:19:50,630 --> 00:19:48,320
that capability we're extending the on

567
00:19:53,029 --> 00:19:50,640
orbit dock time of the htv

568
00:19:55,110 --> 00:19:53,039
for 60 days to ensure that we cover both

569
00:19:57,270 --> 00:19:55,120
the early and late february windows for

570
00:19:59,350 --> 00:19:57,280
our shuttle

571
00:20:01,990 --> 00:19:59,360
shuttle flight and and that will just

572
00:20:04,149 --> 00:20:02,000
protect our ability to

573
00:20:06,630 --> 00:20:04,159
get the orus out of the htv and

574
00:20:09,990 --> 00:20:06,640
installed on their proper pallet

575
00:20:12,470 --> 00:20:10,000
that the shuttle is bringing up on 133

576
00:20:15,430 --> 00:20:12,480
so from a vehicle traffic standpoint the

577
00:20:17,830 --> 00:20:15,440
the big change for us is uh htv will

578
00:20:19,669 --> 00:20:17,840
dock at the nader port and by the second

579
00:20:21,430 --> 00:20:19,679
of february we will have moved it to the

580
00:20:23,270 --> 00:20:21,440
zenith port before we move it to the

581
00:20:24,710 --> 00:20:23,280
zenith port we'll pull out the external

582
00:20:27,029 --> 00:20:24,720
pallet

583
00:20:28,710 --> 00:20:27,039
and attach it to the gym exposed

584
00:20:30,310 --> 00:20:28,720
facility that's at the end of the gym

585
00:20:31,750 --> 00:20:30,320
module and then it'll just that pallet

586
00:20:33,510 --> 00:20:31,760
will stay out there

587
00:20:34,870 --> 00:20:33,520
until the shuttle arrives and we move

588
00:20:36,870 --> 00:20:34,880

the the

589
00:20:39,110 --> 00:20:36,880
the elc from the payload bay of the

590
00:20:41,110 --> 00:20:39,120
shuttle to the iss

591
00:20:43,350 --> 00:20:41,120
then when iss departs we'll do the

592
00:20:44,789 --> 00:20:43,360
robotic maneuvers to put those two oru's

593
00:20:46,470 --> 00:20:44,799
that are on the pallet that came from

594
00:20:48,470 --> 00:20:46,480
the hdv onto the pallets that the

595
00:20:50,630 --> 00:20:48,480
shuttle brought to iss

596
00:20:52,310 --> 00:20:50,640
and then we'll move htv back to the

597
00:20:54,230 --> 00:20:52,320
nader port reinstall that pallet and

598
00:20:56,710 --> 00:20:54,240
then send it on its way

599
00:20:58,710 --> 00:20:56,720
so that's that's the biggest change that

600
00:21:00,870 --> 00:20:58,720
flying in early february does to us the

601
00:21:02,390 --> 00:21:00,880
rest of the flights we've

602
00:21:03,590 --> 00:21:02,400
left them where they were and put the

603
00:21:05,990 --> 00:21:03,600
shuttle

604
00:21:07,830 --> 00:21:06,000
in between and so that's worked out very

605
00:21:09,990 --> 00:21:07,840
well for us

606
00:21:12,950 --> 00:21:10,000
from a crew time standpoint

607
00:21:15,590 --> 00:21:12,960
it's just our our day-to-day life is

608
00:21:17,270 --> 00:21:15,600
is change and and and we've accommodated

609
00:21:18,789 --> 00:21:17,280
this like i said we've gotten some of

610
00:21:20,630 --> 00:21:18,799
the tasks we planned to do actually

611
00:21:22,950 --> 00:21:20,640
during the shuttle flight 133 have

612
00:21:24,710 --> 00:21:22,960
already been accomplished by the crew

613
00:21:26,549 --> 00:21:24,720

on orbit and meanwhile we're moving

614
00:21:28,230 --> 00:21:26,559
activities up that we would have

615
00:21:30,390 --> 00:21:28,240
otherwise

616
00:21:32,630 --> 00:21:30,400
had to postpone uh because the shuttle

617
00:21:33,510 --> 00:21:32,640
was there so we're we're jockeying

618
00:21:36,070 --> 00:21:33,520
around

619
00:21:37,830 --> 00:21:36,080
uh the work of the crew on orbit uh in

620
00:21:40,070 --> 00:21:37,840
order to accommodate this move and

621
00:21:42,710 --> 00:21:40,080
that's relatively standard for us every

622
00:21:44,870 --> 00:21:42,720
day brings a new uh opportunity for us

623
00:21:47,190 --> 00:21:44,880
to to replan the cruise day and and this

624
00:21:49,190 --> 00:21:47,200
is no different so from a station

625
00:21:51,830 --> 00:21:49,200
standpoint we're in good shape uh with

626
00:21:53,510 --> 00:21:51,840
the with this move and we can support

627
00:21:56,470 --> 00:21:53,520
whenever our shuttle colleagues are

628
00:22:00,710 --> 00:21:58,789
okay thanks gentlemen uh due to our

629
00:22:02,710 --> 00:22:00,720
unique configuration if you would when

630
00:22:04,470 --> 00:22:02,720
the microphone gets to you address your

631
00:22:06,070 --> 00:22:04,480
question to the appropriate individual

632
00:22:07,270 --> 00:22:06,080
and i've got a lot of people in about a

633
00:22:09,830 --> 00:22:07,280
half an hour

634
00:22:11,430 --> 00:22:09,840
to uh support question and answer so if

635
00:22:13,029 --> 00:22:11,440
you would try to keep your question

636
00:22:15,110 --> 00:22:13,039
brief

637
00:22:17,270 --> 00:22:15,120
and we'll start right here with mark

638
00:22:20,390 --> 00:22:17,280

oh thank you very much mark caro for

639
00:22:22,950 --> 00:22:20,400
aviation week and space technology

640
00:22:25,830 --> 00:22:22,960
in your comments today i think it's for

641
00:22:28,390 --> 00:22:25,840
john shannon or bill gerstenmaier

642
00:22:29,909 --> 00:22:28,400
in your comments today and those last

643
00:22:32,390 --> 00:22:29,919
week

644
00:22:35,110 --> 00:22:32,400
it sounded like you you really are

645
00:22:36,470 --> 00:22:35,120
looking for an assembly manufacturing or

646
00:22:38,470 --> 00:22:36,480
transport

647
00:22:40,310 --> 00:22:38,480
some sort of issue and the

648
00:22:42,950 --> 00:22:40,320
that's related to the movement or

649
00:22:45,270 --> 00:22:42,960
handling or assembly of the tank

650
00:22:47,590 --> 00:22:45,280
rather than a design problem and i'm

651
00:22:48,310 --> 00:22:47,600
just wondering if in the test that you

652
00:22:49,909 --> 00:22:48,320
do

653
00:22:52,390 --> 00:22:49,919
if there was some

654
00:22:54,710 --> 00:22:52,400
design issue would that emerge as well

655
00:22:57,110 --> 00:22:54,720
as you're testing intended to address

656
00:22:59,990 --> 00:22:57,120
that or would it just encompass

657
00:23:02,149 --> 00:23:00,000
that if that turned out to be the case

658
00:23:05,110 --> 00:23:02,159
yeah i'll take that the

659
00:23:07,270 --> 00:23:05,120
we understand the design

660
00:23:09,430 --> 00:23:07,280
very well what uh what we're trying to

661
00:23:10,710 --> 00:23:09,440
clarify is the loads that are imparted

662
00:23:13,270 --> 00:23:10,720
on that design during initial

663
00:23:15,350 --> 00:23:13,280

cryoloading so

664
00:23:17,350 --> 00:23:15,360
our current belief is the design is

665
00:23:19,029 --> 00:23:17,360
robust and capable of handling those

666
00:23:20,470 --> 00:23:19,039
loads but when we do the tanking test

667
00:23:22,630 --> 00:23:20,480
and really understand what those loads

668
00:23:24,950 --> 00:23:22,640
are we may revise that opinion so we'll

669
00:23:28,390 --> 00:23:24,960
see if we're a little bit closer to our

670
00:23:30,149 --> 00:23:28,400
to our failure criteria and and what you

671
00:23:32,390 --> 00:23:30,159
said previously about we're starting to

672
00:23:34,310 --> 00:23:32,400
hone in on an assembly issue

673
00:23:35,590 --> 00:23:34,320
that's one of several different

674
00:23:37,510 --> 00:23:35,600
possibilities coming out of the fall

675
00:23:39,350 --> 00:23:37,520
tree we'll just rigorously work through

676
00:23:40,789 --> 00:23:39,360
that and and we'll do testing where

677
00:23:42,470 --> 00:23:40,799
appropriate to to understand that

678
00:23:43,909 --> 00:23:42,480
further

679
00:23:49,350 --> 00:23:43,919
robert

680
00:23:50,870 --> 00:23:49,360
with a question for john shannon

681
00:23:52,950 --> 00:23:50,880
can you just

682
00:23:55,430 --> 00:23:52,960
give us an overview of how this affects

683
00:23:57,110 --> 00:23:55,440
the manifest looking further down what's

684
00:23:58,789 --> 00:23:57,120
the window for the

685
00:24:00,710 --> 00:23:58,799
february third attempt do you still have

686
00:24:01,909 --> 00:24:00,720
that window at the end of the month as

687
00:24:05,430 --> 00:24:01,919
well and then what does it do for

688
00:24:07,110 --> 00:24:05,440

sts-134 and if you got approved sds-135

689
00:24:08,710 --> 00:24:07,120
right the

690
00:24:11,590 --> 00:24:08,720
robert the uh

691
00:24:13,750 --> 00:24:11,600
the windows that we're looking at as as

692
00:24:16,070 --> 00:24:13,760
suff had said is

693
00:24:18,549 --> 00:24:16,080
february 3rd through february 10th is

694
00:24:21,669 --> 00:24:18,559
the first one and our current testing

695
00:24:23,909 --> 00:24:21,679
and analysis we believe will support

696
00:24:25,909 --> 00:24:23,919
uh that window of course there are

697
00:24:27,750 --> 00:24:25,919
uh decision points based on what we

698
00:24:29,430 --> 00:24:27,760
learn out of our testing to determine if

699
00:24:31,430 --> 00:24:29,440
we'll make that but right now that's

700
00:24:33,029 --> 00:24:31,440
that's our next available window the

701
00:24:35,350 --> 00:24:33,039
february 27th

702
00:24:36,950 --> 00:24:35,360
window is still good it's the 27th

703
00:24:39,590 --> 00:24:36,960
through march

704
00:24:42,870 --> 00:24:39,600
3rd or 6th i believe yeah and then we

705
00:24:46,390 --> 00:24:42,880
have three windows in april with a

706
00:24:48,549 --> 00:24:46,400
couple small beta violation cutouts and

707
00:24:50,549 --> 00:24:48,559
then may june july you all have launch

708
00:24:51,909 --> 00:24:50,559
opportunities in there so

709
00:24:54,230 --> 00:24:51,919
you know what we we have kind of

710
00:24:55,430 --> 00:24:54,240
mentally laid out so that we can prepare

711
00:24:57,350 --> 00:24:55,440
the um

712
00:24:58,470 --> 00:24:57,360
the teams that work on endeavor and

713
00:25:02,310 --> 00:24:58,480

atlantis

714
00:25:04,950 --> 00:25:02,320
is uh is we expect to to be in a

715
00:25:06,549 --> 00:25:04,960
position to uh to launch discovery

716
00:25:07,909 --> 00:25:06,559
sometime in february

717
00:25:09,830 --> 00:25:07,919
uh that

718
00:25:12,149 --> 00:25:09,840
will provide an opportunity to launch

719
00:25:14,630 --> 00:25:12,159
134 in april

720
00:25:18,390 --> 00:25:14,640
and then we believe that uh that if we

721
00:25:20,870 --> 00:25:18,400
fly an sts-135 mission that uh june is

722
00:25:22,950 --> 00:25:20,880
still a real possibility for that uh or

723
00:25:25,269 --> 00:25:22,960
there are other options you know down

724
00:25:26,630 --> 00:25:25,279
later in the summer so uh

725
00:25:28,070 --> 00:25:26,640
you know right now we're really focused

726
00:25:29,269 --> 00:25:28,080
on discovery but we still have to kind

727
00:25:31,830 --> 00:25:29,279
of lift our head up and make sure that

728
00:25:33,750 --> 00:25:31,840
we're we're still protecting uh the

729
00:25:35,750 --> 00:25:33,760
milestones to meet uh further launch

730
00:25:37,590 --> 00:25:35,760
date so i'm thinking february april and

731
00:25:39,830 --> 00:25:37,600
then sometime in the summer is is

732
00:25:43,750 --> 00:25:39,840
reasonable mike did you have any

733
00:25:46,549 --> 00:25:45,110
excuse me with the houston chronicle

734
00:25:49,029 --> 00:25:46,559
kind of following up on that question

735
00:25:51,830 --> 00:25:49,039
for mike suffradini um

736
00:25:53,990 --> 00:25:51,840
given the fact that now a 134 may go up

737
00:25:56,149 --> 00:25:54,000
in april or even a bit later does that

738
00:25:57,669 --> 00:25:56,159

diminish some of the need for 135 would

739
00:26:00,149 --> 00:25:57,679
there still be a need from the station

740
00:26:01,669 --> 00:26:00,159
standpoint to fly that mission

741
00:26:04,870 --> 00:26:01,679
even though it sort of

742
00:26:07,909 --> 00:26:04,880
would become come closer to 134.

743
00:26:09,990 --> 00:26:07,919
yeah the need for 135 is not based on

744
00:26:14,630 --> 00:26:10,000
when the shuttle flies it's based on the

745
00:26:17,590 --> 00:26:14,640
mass to orbit and and so so 133 and 134

746
00:26:18,710 --> 00:26:17,600
are full and and we have a

747
00:26:35,190 --> 00:26:18,720
a

748
00:26:36,870 --> 00:26:35,200
flights coming up

749
00:26:38,230 --> 00:26:36,880
okay let's go down to the kennedy space

750
00:26:41,830 --> 00:26:38,240
center in florida for a couple of

751
00:26:45,909 --> 00:26:44,149
marcia done associated press probably

752
00:26:48,710 --> 00:26:45,919
for john shannon

753
00:26:50,789 --> 00:26:48,720
could you envision

754
00:26:53,190 --> 00:26:50,799
not ever being able to find root cause

755
00:26:54,630 --> 00:26:53,200
and if that were to be so

756
00:26:57,190 --> 00:26:54,640
uh could you

757
00:26:58,789 --> 00:26:57,200
would you fly 133 anyway at that point

758
00:27:00,470 --> 00:26:58,799
or would that

759
00:27:02,310 --> 00:27:00,480
or would you be recommending not to fly

760
00:27:04,310 --> 00:27:02,320
another shuttle flight

761
00:27:06,710 --> 00:27:04,320
you know i have uh i have strong

762
00:27:08,310 --> 00:27:06,720
confidence marsha that this is a

763
00:27:10,070 --> 00:27:08,320

solvable problem

764
00:27:12,549 --> 00:27:10,080
uh it is a little more subtle than we

765
00:27:14,230 --> 00:27:12,559
had initially believed it would be

766
00:27:15,590 --> 00:27:14,240
i think through the testing plan that we

767
00:27:17,190 --> 00:27:15,600
have laid out that we're going to

768
00:27:18,630 --> 00:27:17,200
determine root cause

769
00:27:20,389 --> 00:27:18,640
then we'll have the discussion on what

770
00:27:22,389 --> 00:27:20,399
type of screens we have to protect for

771
00:27:24,389 --> 00:27:22,399
that root cause failure so

772
00:27:29,190 --> 00:27:24,399
that's the plan we have laid out and and

773
00:27:33,350 --> 00:27:31,269
bill harwood cbs news with one for john

774
00:27:34,630 --> 00:27:33,360
shannon uh actually it's one but maybe a

775
00:27:36,870 --> 00:27:34,640
couple of parts on the on an

776
00:27:38,230 --> 00:27:36,880
instrumented fueling test do you have a

777
00:27:40,870 --> 00:27:38,240
rough time frame for that and i'm

778
00:27:42,230 --> 00:27:40,880
wondering uh at the pad i'm assuming to

779
00:27:43,750 --> 00:27:42,240
install this sensor as you're talking

780
00:27:45,510 --> 00:27:43,760
about cutting foam away at least on the

781
00:27:47,029 --> 00:27:45,520
outside to put it in

782
00:27:48,149 --> 00:27:47,039
you've got cabling issues and all of

783
00:27:49,430 --> 00:27:48,159
that i'm just wondering if you can maybe

784
00:27:50,950 --> 00:27:49,440
just address the complexity of an

785
00:27:53,029 --> 00:27:50,960
instrumented fueling test at the pad

786
00:27:55,669 --> 00:27:53,039
thanks that's a good question

787
00:27:57,110 --> 00:27:55,679
as for time frame we are

788
00:27:58,870 --> 00:27:57,120

going to have the requirements defined

789
00:28:00,389 --> 00:27:58,880
by the middle of next week so that

790
00:28:02,549 --> 00:28:00,399
everybody agrees that yes this is the

791
00:28:05,190 --> 00:28:02,559
data that we need from the tank

792
00:28:07,350 --> 00:28:05,200
my goal is to do this in late december

793
00:28:09,110 --> 00:28:07,360
time frame i would like to very much do

794
00:28:11,269 --> 00:28:09,120
it in december

795
00:28:13,430 --> 00:28:11,279
it is very complicated because you roll

796
00:28:15,190 --> 00:28:13,440
the rotating service structure away from

797
00:28:17,269 --> 00:28:15,200
the stack

798
00:28:20,710 --> 00:28:17,279
when you fuel it and that's for things

799
00:28:23,110 --> 00:28:20,720
like fire x and and uh and vis and and

800
00:28:25,430 --> 00:28:23,120
and just a lot of safety issues

801
00:28:27,430 --> 00:28:25,440
associated with the with the vehicle um

802
00:28:30,789 --> 00:28:27,440
so what that means is that you've got to

803
00:28:32,549 --> 00:28:30,799
find a way to get the cabling from the

804
00:28:34,470 --> 00:28:32,559
inner tank region

805
00:28:36,389 --> 00:28:34,480
to the fixed support structure and

806
00:28:38,310 --> 00:28:36,399
there's several ways to do that you can

807
00:28:40,870 --> 00:28:38,320
you can hang cables down to the orbiter

808
00:28:45,029 --> 00:28:40,880
access arm you can go up and go across

809
00:28:47,350 --> 00:28:45,039
the uh the oaa the orbiter the uh the

810
00:28:50,230 --> 00:28:47,360
gox vent line uh you've got the gupp

811
00:28:51,990 --> 00:28:50,240
which we all know quite well and uh so

812
00:28:53,990 --> 00:28:52,000
there's some ways to get it back to the

813
00:28:57,029 --> 00:28:54,000

fixed service structure

814
00:28:59,350 --> 00:28:57,039
the plan right now is that i want to do

815
00:29:00,950 --> 00:28:59,360
a test in a flight configuration

816
00:29:03,350 --> 00:29:00,960
so what that means is that we would

817
00:29:04,950 --> 00:29:03,360
remove foam that nice foam that they

818
00:29:06,230 --> 00:29:04,960
just put on the tank right we would go

819
00:29:07,750 --> 00:29:06,240
remove that

820
00:29:08,950 --> 00:29:07,760
we would put our instrumentation on

821
00:29:10,310 --> 00:29:08,960
there and then we're going to foam it

822
00:29:12,630 --> 00:29:10,320
back up

823
00:29:14,630 --> 00:29:12,640
because i want the most accurate uh

824
00:29:16,549 --> 00:29:14,640
models that i can possibly get of the of

825
00:29:19,269 --> 00:29:16,559
the stress and the temperature in that

826
00:29:21,510 --> 00:29:19,279
area in a flight configuration so that's

827
00:29:22,870 --> 00:29:21,520
gonna that takes time and that's what is

828
00:29:25,190 --> 00:29:22,880
uh has kind of driven us out of the

829
00:29:26,950 --> 00:29:25,200
december window to get the fidelity of

830
00:29:28,070 --> 00:29:26,960
the test that we

831
00:29:30,310 --> 00:29:28,080
desire

832
00:29:32,470 --> 00:29:30,320
it's foam removal it's instrumentation

833
00:29:33,750 --> 00:29:32,480
placement it's you put the phone back on

834
00:29:35,990 --> 00:29:33,760
it looks like a

835
00:29:38,389 --> 00:29:36,000
the vehicle is ready to go fly except

836
00:29:42,230 --> 00:29:38,399
for the wires coming out of it and uh

837
00:29:44,310 --> 00:29:42,240
and we uh we collect all that data uh uh

838
00:29:46,230 --> 00:29:44,320

in his as high fidelity test as we

839
00:29:49,269 --> 00:29:46,240
possibly can and um

840
00:29:51,029 --> 00:29:49,279
uh we're we still have the discussion on

841
00:29:53,830 --> 00:29:51,039
uh do you go to a complete different

842
00:29:55,909 --> 00:29:53,840
area of the uh of the

843
00:29:58,070 --> 00:29:55,919
lock center tank flange

844
00:30:00,070 --> 00:29:58,080
to capture more data or do you stay in

845
00:30:00,870 --> 00:30:00,080
the area that that we saw this problem

846
00:30:04,549 --> 00:30:00,880
in

847
00:30:05,590 --> 00:30:04,559
hydrogen flange to see if

848
00:30:07,110 --> 00:30:05,600
if that's something we want to

849
00:30:09,590 --> 00:30:07,120
instrument to gain more knowledge there

850
00:30:12,230 --> 00:30:09,600
as well so it's uh all that discussion

851
00:30:13,350 --> 00:30:12,240
will take place uh over the weekend and

852
00:30:14,870 --> 00:30:13,360
early next week we'll have the

853
00:30:15,909 --> 00:30:14,880
requirements set by the middle of next

854
00:30:17,909 --> 00:30:15,919
week and then we'll have the schedule

855
00:30:20,950 --> 00:30:17,919
laid out for the test and our goal is to

856
00:30:25,110 --> 00:30:22,789
okay let's go to the phone bridge i'll

857
00:30:27,269 --> 00:30:25,120
call on you in the order that you uh

858
00:30:28,710 --> 00:30:27,279
called into the newsroom first up andrew

859
00:30:31,669 --> 00:30:28,720
cox

860
00:30:33,510 --> 00:30:32,789
i don't have a question right now thank

861
00:30:42,630 --> 00:30:33,520
you

862
00:30:46,789 --> 00:30:45,029
about peter spots with christian science

863
00:30:48,389 --> 00:30:46,799

monitor

864
00:30:50,070 --> 00:30:48,399
thanks a lot this uh

865
00:30:51,830 --> 00:30:50,080
i may be misremembering but i thought in

866
00:30:54,070 --> 00:30:51,840
a prior briefing there was some

867
00:30:56,230 --> 00:30:54,080
discussion about uh

868
00:30:58,389 --> 00:30:56,240
perhaps if the launch had to be delayed

869
00:31:00,549 --> 00:30:58,399
until february that that might affect

870
00:31:01,750 --> 00:31:00,559
the the amount of

871
00:31:03,990 --> 00:31:01,760
uh

872
00:31:05,669 --> 00:31:04,000
mass you can take up if i'm remembering

873
00:31:06,950 --> 00:31:05,679
that correctly

874
00:31:08,230 --> 00:31:06,960
i wonder if you could unpack that a

875
00:31:09,590 --> 00:31:08,240
little bit and

876
00:31:12,870 --> 00:31:09,600
if i'm not remembering it correctly let

877
00:31:15,909 --> 00:31:14,070
from a shuttle standpoint there's a

878
00:31:17,190 --> 00:31:15,919
performance penalty for launching in

879
00:31:19,350 --> 00:31:17,200
february

880
00:31:21,830 --> 00:31:19,360
that has to do with the the temperature

881
00:31:23,750 --> 00:31:21,840
and the uh the booster propellant and

882
00:31:26,950 --> 00:31:23,760
how cool it gets there's also

883
00:31:29,830 --> 00:31:26,960
uh some some atmospheric effects of that

884
00:31:33,990 --> 00:31:29,840
that it's about 300 or so pounds and

885
00:31:37,350 --> 00:31:35,269
well actually we don't we don't have to

886
00:31:39,830 --> 00:31:37,360
go into the pmn that the shuttle guys

887
00:31:40,870 --> 00:31:39,840
have worked with us very closely um

888
00:31:43,990 --> 00:31:40,880

uh

889
00:31:46,630 --> 00:31:44,000
there is a performance penalty we make

890
00:31:49,430 --> 00:31:46,640
it up largely by removing ballasts that

891
00:31:51,350 --> 00:31:49,440
we don't require in the shuttle actually

892
00:31:52,630 --> 00:31:51,360
and so we have at one point you do

893
00:31:54,710 --> 00:31:52,640
remember correctly at one point we

894
00:31:56,950 --> 00:31:54,720
thought we might have to

895
00:31:59,029 --> 00:31:56,960
get the pmm out and

896
00:32:01,110 --> 00:31:59,039
load some of the items in the mid deck

897
00:32:02,230 --> 00:32:01,120
into the pmm

898
00:32:04,230 --> 00:32:02,240
to to

899
00:32:06,149 --> 00:32:04,240
be able to take it to orbit but the team

900
00:32:07,750 --> 00:32:06,159
has worked that very hard

901
00:32:10,149 --> 00:32:07,760
together over the last

902
00:32:12,230 --> 00:32:10,159
week or so and we've determined that it

903
00:32:14,470 --> 00:32:12,240
won't be necessary to get into the pmm

904
00:32:15,350 --> 00:32:14,480
we've taken one or two very small items

905
00:32:16,389 --> 00:32:15,360
off

906
00:32:18,870 --> 00:32:16,399
um

907
00:32:20,549 --> 00:32:18,880
out of the mid deck and those items are

908
00:32:23,830 --> 00:32:20,559
being shipped to a french guiana will

909
00:32:26,310 --> 00:32:23,840
fly up as part of the late load on atv

910
00:32:27,430 --> 00:32:26,320
um well that's less than 100 pounds

911
00:32:30,630 --> 00:32:27,440
worth of

912
00:32:32,070 --> 00:32:30,640
impact

913
00:32:33,590 --> 00:32:32,080

but other than that

914
00:32:36,070 --> 00:32:33,600
that was the only change we had to make

915
00:32:38,870 --> 00:32:36,080
in order to to meet the

916
00:32:43,909 --> 00:32:41,190
okay thanks thanks peter let's see

917
00:32:46,710 --> 00:32:43,919
denise ciao space.com

918
00:32:48,549 --> 00:32:46,720
hi um it sounds like the um

919
00:32:51,110 --> 00:32:48,559
instrumentation test and all that can be

920
00:32:52,549 --> 00:32:51,120
done with the shuttle at the pad um this

921
00:32:56,549 --> 00:32:52,559
is a question for john and do you

922
00:32:58,630 --> 00:32:56,559
anticipate at all having to roll back

923
00:33:00,789 --> 00:32:58,640
there's there's no

924
00:33:02,710 --> 00:33:00,799
data right now that's driving us to to

925
00:33:03,590 --> 00:33:02,720
roll back to the vab the only thing

926
00:33:05,190 --> 00:33:03,600
we've

927
00:33:08,470 --> 00:33:05,200
thought about is it gives you access to

928
00:33:10,070 --> 00:33:08,480
the back side of the tank so if we had a

929
00:33:11,990 --> 00:33:10,080
condition where we felt it was important

930
00:33:13,750 --> 00:33:12,000
to x-ray the

931
00:33:15,350 --> 00:33:13,760
the stringers

932
00:33:17,669 --> 00:33:15,360
on the back side of the tank away from

933
00:33:19,990 --> 00:33:17,679
the orbiter then we would we would do

934
00:33:23,990 --> 00:33:20,000
that to gain access but right now that's

935
00:33:28,230 --> 00:33:25,990
okay let's see uh carrie sheridan are

936
00:33:29,750 --> 00:33:28,240
you out there with afp

937
00:33:31,990 --> 00:33:29,760
i am but i don't have any questions at

938
00:33:33,909 --> 00:33:32,000

this time thank you okay thanks ken

939
00:33:35,990 --> 00:33:33,919
kramer space flight magazine

940
00:33:38,230 --> 00:33:36,000
ken hi thank you yeah actually my

941
00:33:40,789 --> 00:33:38,240
question was also about the rollback uh

942
00:33:42,630 --> 00:33:40,799
if you did have to roll it back however

943
00:33:43,590 --> 00:33:42,640
what what would be the consequence of

944
00:33:46,230 --> 00:33:43,600
that

945
00:33:48,950 --> 00:33:46,240
and uh you have any consideration of

946
00:33:50,870 --> 00:33:48,960
possibly switching the flights 133 and

947
00:33:53,029 --> 00:33:50,880
134 thanks

948
00:33:55,750 --> 00:33:53,039
okay i'll take the first part and

949
00:33:58,389 --> 00:33:55,760
michael take the second uh

950
00:34:00,630 --> 00:33:58,399
if we had to do a roll back if we were

951
00:34:04,230 --> 00:34:00,640
informed through our instrument tanking

952
00:34:05,669 --> 00:34:04,240
test or our stress analysis that um that

953
00:34:07,350 --> 00:34:05,679
we had an issue where we felt like we

954
00:34:08,149 --> 00:34:07,360
had to get x-rays on the backside of the

955
00:34:10,069 --> 00:34:08,159
tank

956
00:34:11,669 --> 00:34:10,079
we would do that the preliminary look at

957
00:34:14,710 --> 00:34:11,679
his schedule would still support a

958
00:34:19,430 --> 00:34:17,030
uh and as far as 133 in front in front

959
00:34:22,629 --> 00:34:19,440
of 134 because of the interaction with

960
00:34:23,750 --> 00:34:22,639
the htv we would like to fly a 133

961
00:34:26,230 --> 00:34:23,760
before

962
00:34:28,550 --> 00:34:26,240
134 flies in addition that

963
00:34:29,510 --> 00:34:28,560

133 has a number of these

964
00:34:32,790 --> 00:34:29,520
tank

965
00:34:35,270 --> 00:34:32,800
processing assembly

966
00:34:37,829 --> 00:34:35,280
and so we'd like to have a set of those

967
00:34:40,790 --> 00:34:37,839
on orbit so we quit disposing of urine

968
00:34:41,990 --> 00:34:40,800
and and instead process it uh back into

969
00:34:44,230 --> 00:34:42,000
water so

970
00:34:48,550 --> 00:34:44,240
for those reasons we'd like to keep 133

971
00:34:53,109 --> 00:34:51,510
okay thanks can let's see uh gail

972
00:34:54,869 --> 00:34:53,119
putridge are you out there with flight

973
00:34:56,230 --> 00:34:54,879
international

974
00:34:57,349 --> 00:34:56,240
i am um

975
00:34:59,510 --> 00:34:57,359
i guess the

976
00:35:01,430 --> 00:34:59,520
most of the window questions have been

977
00:35:04,710 --> 00:35:01,440
answered um

978
00:35:06,950 --> 00:35:04,720
i guess what i'm really wondering is

979
00:35:09,190 --> 00:35:06,960
how long

980
00:35:10,790 --> 00:35:09,200
can this keep

981
00:35:12,150 --> 00:35:10,800
pushing

982
00:35:16,710 --> 00:35:12,160
you were kind of breaking up gail can

983
00:35:18,710 --> 00:35:16,720
you repeat that sure how how long um

984
00:35:21,030 --> 00:35:18,720
is nasa really able to keep pushing this

985
00:35:25,750 --> 00:35:21,040
back i mean you mentioned

986
00:35:32,230 --> 00:35:27,750
is that like something you're seriously

987
00:35:35,670 --> 00:35:34,069
well what i would say and bill

988
00:35:37,829 --> 00:35:35,680

gerstmeyer may want to chime in on this

989
00:35:41,190 --> 00:35:37,839
one is that you know our focus right now

990
00:35:43,190 --> 00:35:41,200
is on on sts-133 and discovery and in

991
00:35:45,990 --> 00:35:43,200
solving the technical issue

992
00:35:48,550 --> 00:35:46,000
uh in launching in february

993
00:35:50,630 --> 00:35:48,560
looking downstream it does not take us

994
00:35:52,390 --> 00:35:50,640
uh significantly further past where we

995
00:35:55,670 --> 00:35:52,400
were prepared to launch

996
00:35:56,790 --> 00:35:55,680
a 335 rescue mission that was in in june

997
00:35:59,829 --> 00:35:56,800
anyway

998
00:36:02,390 --> 00:35:59,839
so the the end time for our last mission

999
00:36:03,510 --> 00:36:02,400
uh really really hasn't changed

1000
00:36:04,950 --> 00:36:03,520
um

1001
00:36:07,589 --> 00:36:04,960
but if we

1002
00:36:09,670 --> 00:36:07,599
stumble on something that uh that causes

1003
00:36:11,510 --> 00:36:09,680
us to to rethink what we would need to

1004
00:36:13,750 --> 00:36:11,520
do with the with the external tank then

1005
00:36:15,589 --> 00:36:13,760
then we'll go back and look at the

1006
00:36:20,310 --> 00:36:15,599
the overall schedule i know bill did you

1007
00:36:24,630 --> 00:36:22,150
yeah i guess you know john i'd i just

1008
00:36:27,109 --> 00:36:24,640
kind of echo exactly what you said that

1009
00:36:29,030 --> 00:36:27,119
we need to focus on 133 as we are we'll

1010
00:36:30,790 --> 00:36:29,040
take the time to understand the problem

1011
00:36:31,910 --> 00:36:30,800
and we'll get ready to go fly when it

1012
00:36:33,510 --> 00:36:31,920
fits

1013
00:36:35,109 --> 00:36:33,520

we can address all the other what-if

1014
00:36:37,510 --> 00:36:35,119
stuffs and see see where we are but

1015
00:36:39,829 --> 00:36:37,520
we've got some margin in the remaining

1016
00:36:41,270 --> 00:36:39,839
time frame we can get the job done and

1017
00:36:43,829 --> 00:36:41,280
things will fit from an overall flight

1018
00:36:46,310 --> 00:36:43,839
standpoint so i think right now that the

1019
00:36:47,829 --> 00:36:46,320
real job for us is to not worry too much

1020
00:36:50,150 --> 00:36:47,839
about the overall schedule we've got a

1021
00:36:51,750 --> 00:36:50,160
good plan as mike laid out from being

1022
00:36:53,430 --> 00:36:51,760
able to support station and that's our

1023
00:36:55,109 --> 00:36:53,440
ultimate goal is to leave station in the

1024
00:36:57,270 --> 00:36:55,119
best configuration we can and that's

1025
00:36:58,950 --> 00:36:57,280
laid out well we'll figure out a right

1026
00:37:00,550 --> 00:36:58,960
way to get this understood and then

1027
00:37:01,829 --> 00:37:00,560
we'll take the data as it comes to us

1028
00:37:03,430 --> 00:37:01,839
we'll figure out what to do with it

1029
00:37:05,270 --> 00:37:03,440
we'll move forward but i think they've

1030
00:37:06,790 --> 00:37:05,280
laid out a very sound plan that gives us

1031
00:37:08,470 --> 00:37:06,800
plenty of margin and we're not

1032
00:37:10,310 --> 00:37:08,480
constrained overall from a mission

1033
00:37:12,230 --> 00:37:10,320
standpoint and the way it falls and

1034
00:37:14,310 --> 00:37:12,240
moves forward so i think the thing for

1035
00:37:15,829 --> 00:37:14,320
all of us to remember is we really want

1036
00:37:17,910 --> 00:37:15,839
to make sure this flight is successful

1037
00:37:19,349 --> 00:37:17,920
we really need the cargo 2 space station

1038
00:37:21,109 --> 00:37:19,359

the best way to do that is do what the

1039
00:37:23,030 --> 00:37:21,119
teams are exactly doing right now is to

1040
00:37:24,790 --> 00:37:23,040
do the testing that needs to be done to

1041
00:37:26,390 --> 00:37:24,800
get the analysis done the proper way and

1042
00:37:29,109 --> 00:37:26,400
get ready to go fly when it's time to go

1043
00:37:32,390 --> 00:37:30,470
okay back

1044
00:37:35,670 --> 00:37:32,400
to the phone bridge for bobby block with

1045
00:37:38,710 --> 00:37:35,680
the orlando sentinel bobby

1046
00:37:40,870 --> 00:37:38,720
i i guess this is for for bill

1047
00:37:43,190 --> 00:37:40,880
um and then there's a quick follow-up

1048
00:37:46,870 --> 00:37:43,200
that i have for for for john but the the

1049
00:37:49,030 --> 00:37:46,880
first one is if 134 was supposed to go

1050
00:37:51,670 --> 00:37:49,040
in february how does that how does

1051
00:37:54,950 --> 00:37:51,680
moving this flight to february impact

1052
00:37:58,790 --> 00:37:54,960
134 and what budget impact

1053
00:38:00,310 --> 00:37:58,800
is this going to have on on on the

1054
00:38:03,349 --> 00:38:00,320
program and

1055
00:38:08,790 --> 00:38:03,359
will that impact the budget requirements

1056
00:38:13,589 --> 00:38:10,550
again where we're thinking right now is

1057
00:38:15,349 --> 00:38:13,599
we would move 133 to the february

1058
00:38:18,390 --> 00:38:15,359
third window that opens up there then

1059
00:38:20,230 --> 00:38:18,400
134 would fly around april 1st

1060
00:38:21,910 --> 00:38:20,240
and then that flight completes about the

1061
00:38:25,990 --> 00:38:21,920
middle of april so if you looked at

1062
00:38:27,750 --> 00:38:26,000
where we were before 134 was on the 28th

1063
00:38:29,109 --> 00:38:27,760

of february or so now it's moved a

1064
00:38:31,349 --> 00:38:29,119
couple days

1065
00:38:33,109 --> 00:38:31,359
i guess it's moved a little bit into the

1066
00:38:35,990 --> 00:38:33,119
into the april time frame and i think we

1067
00:38:38,390 --> 00:38:36,000
have we have sufficient margin to to go

1068
00:38:40,390 --> 00:38:38,400
ahead and uh and go work all those

1069
00:38:41,829 --> 00:38:40,400
activities from a budget standpoint so

1070
00:38:43,670 --> 00:38:41,839
we haven't really

1071
00:38:49,670 --> 00:38:43,680
pushed or upset anything from an overall

1072
00:38:52,310 --> 00:38:50,870
go ahead bobby you said you had a

1073
00:38:56,390 --> 00:38:52,320
follow-up

1074
00:38:58,710 --> 00:38:56,400
if if previous tanks may have been

1075
00:39:00,550 --> 00:38:58,720
seeing these similar problems and they

1076
00:39:02,790 --> 00:39:00,560
just haven't missed i mean if we've been

1077
00:39:05,990 --> 00:39:02,800
flying with cracks before or is that

1078
00:39:07,589 --> 00:39:06,000
still an an unknown unknown

1079
00:39:10,550 --> 00:39:07,599
that's a that's a good question as part

1080
00:39:12,310 --> 00:39:10,560
of our our data mining the um

1081
00:39:13,990 --> 00:39:12,320
think about what we what we have done

1082
00:39:15,990 --> 00:39:14,000
i'll give you two parts of this the

1083
00:39:17,670 --> 00:39:16,000
first is after we did the cryoloading we

1084
00:39:19,510 --> 00:39:17,680
saw the initial crack

1085
00:39:22,550 --> 00:39:19,520
uh and we

1086
00:39:24,310 --> 00:39:22,560
excavated the foam uh saw the the other

1087
00:39:28,230 --> 00:39:24,320
crack on the stringer right next to us

1088
00:39:30,630 --> 00:39:28,240

that that uh that may be related

1089
00:39:32,630 --> 00:39:30,640
we did the x-ray of all the other

1090
00:39:35,109 --> 00:39:32,640
uh

1091
00:39:36,470 --> 00:39:35,119
stringers on the orbiter side of the the

1092
00:39:37,349 --> 00:39:36,480
vehicle that had just seen the crowd

1093
00:39:38,150 --> 00:39:37,359
loading

1094
00:39:42,550 --> 00:39:38,160
and

1095
00:39:44,870 --> 00:39:42,560
were able to see down to down to very

1096
00:39:48,390 --> 00:39:44,880
small details and there is nothing there

1097
00:39:53,030 --> 00:39:50,150
we took the same

1098
00:39:55,630 --> 00:39:53,040
system over to the vab ended the

1099
00:39:59,030 --> 00:39:55,640
the x-rays on

1100
00:40:01,829 --> 00:39:59,040
et-138 and et-122

1101
00:40:04,550 --> 00:40:01,839
and they have not been cryo-loaded but

1102
00:40:07,109 --> 00:40:04,560
we couldn't find any flaws or any any

1103
00:40:08,390 --> 00:40:07,119
fractures or anything at all in those

1104
00:40:10,470 --> 00:40:08,400
areas and that's all the way around the

1105
00:40:12,069 --> 00:40:10,480
tank

1106
00:40:14,150 --> 00:40:12,079
so you know

1107
00:40:15,270 --> 00:40:14,160
the other piece of it that that you have

1108
00:40:17,109 --> 00:40:15,280
to

1109
00:40:18,710 --> 00:40:17,119
um

1110
00:40:20,870 --> 00:40:18,720
you have to understand the limitations

1111
00:40:21,670 --> 00:40:20,880
of it is is the flight history piece of

1112
00:40:24,950 --> 00:40:21,680
it

1113
00:40:28,230 --> 00:40:24,960

we have an excellent

1114
00:40:29,990 --> 00:40:28,240
views of the lock's inner tank flange

1115
00:40:31,349 --> 00:40:30,000
pre-launch after we load it up and we're

1116
00:40:32,550 --> 00:40:31,359
sitting there

1117
00:40:33,510 --> 00:40:32,560
and

1118
00:40:41,349 --> 00:40:33,520
the

1119
00:40:42,390 --> 00:40:41,359
we would clearly have seen if we had a

1120
00:40:45,030 --> 00:40:42,400
crack

1121
00:40:46,710 --> 00:40:45,040
uh up in that lox flange area and and we

1122
00:40:47,829 --> 00:40:46,720
never have

1123
00:40:49,349 --> 00:40:47,839
now

1124
00:40:51,109 --> 00:40:49,359
there's a more subtle question here

1125
00:40:53,510 --> 00:40:51,119
could you have had a smaller crack that

1126
00:40:55,430 --> 00:40:53,520
would not have displaced the foam

1127
00:40:57,109 --> 00:40:55,440
that you were launching with

1128
00:40:58,790 --> 00:40:57,119
that you wouldn't have seen in that

1129
00:41:00,309 --> 00:40:58,800
final inspection

1130
00:41:02,550 --> 00:41:00,319
team review

1131
00:41:05,430 --> 00:41:02,560
i i don't know the answer to that

1132
00:41:07,910 --> 00:41:05,440
what i can say though is that our

1133
00:41:09,670 --> 00:41:07,920
uh assessment of all of the imagery that

1134
00:41:11,109 --> 00:41:09,680
we have had and we we've spent the week

1135
00:41:13,750 --> 00:41:11,119
going through it

1136
00:41:15,589 --> 00:41:13,760
the lox inner tank flange has never lost

1137
00:41:17,349 --> 00:41:15,599
a significant piece of foam

1138
00:41:19,510 --> 00:41:17,359

you've had some erosion or maybe some

1139
00:41:21,430 --> 00:41:19,520
popcorn in that area we have never lost

1140
00:41:23,910 --> 00:41:21,440
anything that's not a surprise because

1141
00:41:26,870 --> 00:41:23,920
it's not susceptible to the to the cryo

1142
00:41:30,470 --> 00:41:26,880
pumping that you get down on the on the

1143
00:41:32,470 --> 00:41:30,480
uh hydrogen tank flange area

1144
00:41:34,390 --> 00:41:32,480
where we have lost some foam and we've

1145
00:41:35,910 --> 00:41:34,400
taken some significant actions to to

1146
00:41:39,349 --> 00:41:35,920
mitigate that

1147
00:41:41,349 --> 00:41:39,359
but up on the lo2 flange we have

1148
00:41:43,430 --> 00:41:41,359
we've reviewed and we haven't lost any

1149
00:41:45,190 --> 00:41:43,440
any significant pieces of foam we've

1150
00:41:47,270 --> 00:41:45,200
also looked very hard to see if we had

1151
00:41:49,430 --> 00:41:47,280
any cracks just see if you had a crack

1152
00:41:50,550 --> 00:41:49,440
that was was in the foam that did not

1153
00:41:51,990 --> 00:41:50,560
liberate

1154
00:41:54,230 --> 00:41:52,000
the foam

1155
00:41:56,550 --> 00:41:54,240
that's a lot harder to do it depends on

1156
00:41:58,790 --> 00:41:56,560
the lighting angle it depends on the the

1157
00:42:01,430 --> 00:41:58,800
focus of the camera and stuff

1158
00:42:03,589 --> 00:42:01,440
so there are limitations to that but we

1159
00:42:06,390 --> 00:42:03,599
have not seen any cracks

1160
00:42:08,550 --> 00:42:06,400
from the the imagery that we have so far

1161
00:42:09,750 --> 00:42:08,560
so this was this is a this was a unique

1162
00:42:12,630 --> 00:42:09,760
event to us

1163
00:42:14,230 --> 00:42:12,640

and uh i don't have any data that says

1164
00:42:15,510 --> 00:42:14,240
that we've been flying with cracks all

1165
00:42:17,190 --> 00:42:15,520
along

1166
00:42:19,109 --> 00:42:17,200
there's some limitations to that because

1167
00:42:20,390 --> 00:42:19,119
it's a secondary

1168
00:42:22,470 --> 00:42:20,400
look

1169
00:42:24,390 --> 00:42:22,480
through foam displacement as to whether

1170
00:42:27,030 --> 00:42:24,400
you had a crack

1171
00:42:29,109 --> 00:42:27,040
but i know on the tank that i have

1172
00:42:32,710 --> 00:42:29,119
out at the pad right now on the orbiter

1173
00:42:35,030 --> 00:42:32,720
side of those 54 stringers i i have no

1174
00:42:37,109 --> 00:42:35,040
other cracks so that's i'm sharing the

1175
00:42:38,950 --> 00:42:37,119
data with you and you can draw you know

1176
00:42:40,950 --> 00:42:38,960
your own conclusions there's limitations

1177
00:42:43,190 --> 00:42:40,960
to that data but i also don't have

1178
00:42:46,630 --> 00:42:43,200
anything that indicates that this is a

1179
00:42:50,790 --> 00:42:49,510
okay let's see next up is adam mann are

1180
00:42:53,190 --> 00:42:50,800
you there adam

1181
00:42:55,670 --> 00:42:53,200
uh yeah hi um

1182
00:42:57,510 --> 00:42:55,680
i guess this would be a question for uh

1183
00:42:59,190 --> 00:42:57,520
for mike or john

1184
00:43:02,390 --> 00:42:59,200
is there any discussion you said that

1185
00:43:04,309 --> 00:43:02,400
both of the flights are full 133 and 134

1186
00:43:06,069 --> 00:43:04,319
is there any discussion that the alpha

1187
00:43:09,109 --> 00:43:06,079
magnetic spectrometer which was meant to

1188
00:43:11,190 --> 00:43:09,119

go up in february would go up on 133

1189
00:43:12,630 --> 00:43:11,200
instead

1190
00:43:15,510 --> 00:43:12,640
oh that would be a

1191
00:43:18,150 --> 00:43:15,520
significant impact to to rearrange the

1192
00:43:19,510 --> 00:43:18,160
cargo bay at this point uh

1193
00:43:22,950 --> 00:43:19,520
so

1194
00:43:24,950 --> 00:43:22,960
entertain really the objective is to fly

1195
00:43:27,750 --> 00:43:24,960
these flights as as we had planned we

1196
00:43:31,270 --> 00:43:27,760
have no reason to to change the the plan

1197
00:43:33,670 --> 00:43:31,280
the the ams is processing well and uh

1198
00:43:35,670 --> 00:43:33,680
they don't have a constraint to uh

1199
00:43:37,030 --> 00:43:35,680
to waiting a little bit longer to go fly

1200
00:43:38,630 --> 00:43:37,040
and so uh

1201
00:43:40,390 --> 00:43:38,640
so right now the arrangement we have

1202
00:43:42,309 --> 00:43:40,400
today works well for

1203
00:43:45,190 --> 00:43:42,319
for all the folks involved and it would

1204
00:43:46,710 --> 00:43:45,200
be a much much bigger impact overall to

1205
00:43:47,910 --> 00:43:46,720
the program to try to rearrange the

1206
00:43:49,670 --> 00:43:47,920
payload bay and you certainly couldn't

1207
00:43:51,589 --> 00:43:49,680
do that in the next few months it takes

1208
00:43:53,270 --> 00:43:51,599
much longer than that so

1209
00:43:55,670 --> 00:43:53,280
the fastest way to fly these flights is

1210
00:43:59,030 --> 00:43:55,680
to fly them in the order that we've

1211
00:44:01,829 --> 00:43:59,990
okay

1212
00:44:05,910 --> 00:44:01,839
two more folks before we close the

1213
00:44:12,870 --> 00:44:09,109

yeah thanks very much um i have uh one

1214
00:44:15,349 --> 00:44:12,880
for gerst and uh maybe one for uh john

1215
00:44:17,589 --> 00:44:15,359
is kind of a two-parter um i wonder if

1216
00:44:20,870 --> 00:44:17,599
uh you could give us an idea of the

1217
00:44:23,990 --> 00:44:20,880
crew's reaction to the slip to february

1218
00:44:27,030 --> 00:44:24,000
and uh for gerst um there seems to have

1219
00:44:29,510 --> 00:44:27,040
been a sense that a a slip into the new

1220
00:44:31,670 --> 00:44:29,520
year might impact

1221
00:44:34,950 --> 00:44:31,680
your ability to get the authorization

1222
00:44:36,550 --> 00:44:34,960
you need to fly 135 and and i'm

1223
00:44:38,630 --> 00:44:36,560
wondering if you think that this will

1224
00:44:41,510 --> 00:44:38,640
have any impact on

1225
00:44:44,069 --> 00:44:41,520
your ability to convince congress to uh

1226
00:44:45,829 --> 00:44:44,079
go ahead with that one additional flight

1227
00:44:48,470 --> 00:44:45,839
thanks

1228
00:44:51,430 --> 00:44:48,480
i'll take the first part we talked to

1229
00:44:53,829 --> 00:44:51,440
steve lindsey the commander of sts-133

1230
00:44:55,270 --> 00:44:53,839
right after the prcb yesterday

1231
00:44:57,190 --> 00:44:55,280
of course the astronaut office has been

1232
00:44:58,550 --> 00:44:57,200
very closely involved with this

1233
00:45:00,390 --> 00:44:58,560
investigation

1234
00:45:02,069 --> 00:45:00,400
they were very supportive understood

1235
00:45:03,030 --> 00:45:02,079
exactly where we're headed and steve's

1236
00:45:04,870 --> 00:45:03,040
only

1237
00:45:11,030 --> 00:45:04,880
comment to me is that when the vehicle

1238
00:45:17,030 --> 00:45:13,190

and your question about

1239
00:45:18,710 --> 00:45:17,040
sts 135 and the potential budget impacts

1240
00:45:21,349 --> 00:45:18,720
of all these things moving does it help

1241
00:45:23,030 --> 00:45:21,359
or hurt our chances of getting 135

1242
00:45:25,430 --> 00:45:23,040
you know i don't really think it changes

1243
00:45:27,030 --> 00:45:25,440
it much one way or the other

1244
00:45:28,069 --> 00:45:27,040
again you know our commitment has been

1245
00:45:30,069 --> 00:45:28,079
to really

1246
00:45:31,670 --> 00:45:30,079
to stay focused on these flights and fly

1247
00:45:33,510 --> 00:45:31,680
them safely and do what it takes to

1248
00:45:34,150 --> 00:45:33,520
really make sure they're ready to go fly

1249
00:45:35,670 --> 00:45:34,160
and

1250
00:45:38,069 --> 00:45:35,680
you know i said in a couple flight

1251
00:45:39,750 --> 00:45:38,079
readiness reviews back that

1252
00:45:41,510 --> 00:45:39,760
we would treat each one of these flights

1253
00:45:43,030 --> 00:45:41,520
just like they were a regular flight in

1254
00:45:44,790 --> 00:45:43,040
the sequence and we would work all

1255
00:45:46,150 --> 00:45:44,800
issues with the same rigor that we would

1256
00:45:48,630 --> 00:45:46,160
even though there's only a couple of

1257
00:45:50,630 --> 00:45:48,640
flights left and and the teams have have

1258
00:45:52,790 --> 00:45:50,640
done that we we're doing that exactly

1259
00:45:54,309 --> 00:45:52,800
here so we are doing exactly the things

1260
00:45:56,150 --> 00:45:54,319
that we talked about and laid out in

1261
00:45:58,150 --> 00:45:56,160
terms of troubleshooting and working

1262
00:45:59,750 --> 00:45:58,160
things forward and i look to our

1263
00:46:01,589 --> 00:45:59,760

congressional friends and the folks here

1264
00:46:03,430 --> 00:46:01,599
in washington to have that same respect

1265
00:46:04,870 --> 00:46:03,440
for what we're doing that we're honoring

1266
00:46:07,589 --> 00:46:04,880
our commitment to treat each one of

1267
00:46:09,349 --> 00:46:07,599
these flights as a true true safety of

1268
00:46:11,750 --> 00:46:09,359
flight issue to make sure we resolve

1269
00:46:12,950 --> 00:46:11,760
these issues move things forward and i

1270
00:46:14,710 --> 00:46:12,960
look to them to give us the same

1271
00:46:16,550 --> 00:46:14,720
consideration from a budget standpoint

1272
00:46:18,630 --> 00:46:16,560
and i'm sure they will so i don't see

1273
00:46:20,790 --> 00:46:18,640
any concerns about this we're focused on

1274
00:46:22,390 --> 00:46:20,800
getting the vehicle ready to go fly keep

1275
00:46:24,230 --> 00:46:22,400
an international space station

1276
00:46:25,910 --> 00:46:24,240
resupplied so we can do really quality

1277
00:46:27,990 --> 00:46:25,920
research there and and we'll move

1278
00:46:29,349 --> 00:46:28,000
forward as we need to going forward and

1279
00:46:33,190 --> 00:46:29,359
i don't see an impact one way or the

1280
00:46:37,670 --> 00:46:35,349
okay thanks todd let's see our last

1281
00:46:39,910 --> 00:46:37,680
person on the line should be irene klotz

1282
00:46:42,870 --> 00:46:39,920
with reuters irene are you there thanks

1283
00:46:46,069 --> 00:46:42,880
kyle um yes and i also have a follow-on

1284
00:46:47,990 --> 00:46:46,079
question for uh bill gerstenmaier um

1285
00:46:50,390 --> 00:46:48,000
although you're saying that you don't

1286
00:46:52,150 --> 00:46:50,400
think this uh delaying the launch until

1287
00:46:55,750 --> 00:46:52,160
next year might impact the request for

1288
00:46:57,990 --> 00:46:55,760

the 135 flight but um in the meantime of

1289
00:47:00,630 --> 00:46:58,000
course things have changed and another

1290
00:47:02,150 --> 00:47:00,640
continuing resolution looks like it's on

1291
00:47:04,710 --> 00:47:02,160
the plate and

1292
00:47:07,109 --> 00:47:04,720
there's a budget overrun on james webb

1293
00:47:10,870 --> 00:47:07,119
and i guess i'm just trying to get a

1294
00:47:13,270 --> 00:47:10,880
sense of the prioritization and

1295
00:47:15,910 --> 00:47:13,280
where the 135 flight

1296
00:47:19,109 --> 00:47:15,920
falls in the scheme of things and then

1297
00:47:21,190 --> 00:47:19,119
as a as in a kind of a sidebar to that

1298
00:47:22,390 --> 00:47:21,200
if you had any thoughts on whether a

1299
00:47:26,470 --> 00:47:22,400
successful

1300
00:47:27,270 --> 00:47:26,480
cots1 demo by spacex next week

1301
00:47:29,910 --> 00:47:27,280
will

1302
00:47:32,309 --> 00:47:29,920
alleviate some of the concerns and the

1303
00:47:34,870 --> 00:47:32,319
need for that year's worth of supplies

1304
00:47:39,109 --> 00:47:34,880
that you were planning on the 135 flight

1305
00:47:42,870 --> 00:47:41,109
okay thanks irene

1306
00:47:45,270 --> 00:47:42,880
you know i would first of all again say

1307
00:47:46,950 --> 00:47:45,280
from a budget standpoint i think the the

1308
00:47:49,109 --> 00:47:46,960
need for the flight is still as strong

1309
00:47:50,549 --> 00:47:49,119
as it's been before and and what we've

1310
00:47:52,069 --> 00:47:50,559
talked about for this flight is we

1311
00:47:54,230 --> 00:47:52,079
really want to get those critical

1312
00:47:55,750 --> 00:47:54,240
supplies to station so we can ensure

1313
00:47:57,589 --> 00:47:55,760

that we get

1314
00:47:59,030 --> 00:47:57,599
good research done on station and we

1315
00:48:01,270 --> 00:47:59,040
provide a little margin for the

1316
00:48:03,030 --> 00:48:01,280
commercial resupply

1317
00:48:05,510 --> 00:48:03,040
cargo flights that are that are coming

1318
00:48:07,030 --> 00:48:05,520
online here with the flight next week so

1319
00:48:10,069 --> 00:48:07,040
i don't think the hard work the

1320
00:48:12,230 --> 00:48:10,079
requirement for this sts-135 flight has

1321
00:48:14,470 --> 00:48:12,240
changed at all technically

1322
00:48:16,630 --> 00:48:14,480
you can see from our discussions about

1323
00:48:18,630 --> 00:48:16,640
what order we fly the flights in what

1324
00:48:20,390 --> 00:48:18,640
cargo is on the flights how mike

1325
00:48:22,390 --> 00:48:20,400
describes the activities that he needs

1326
00:48:24,630 --> 00:48:22,400
to do on station to keep the station

1327
00:48:27,589 --> 00:48:24,640
resupplied and operational how really

1328
00:48:29,430 --> 00:48:27,599
tight this entire sequence is and 135 is

1329
00:48:31,910 --> 00:48:29,440
really critical to making sure we have

1330
00:48:33,349 --> 00:48:31,920
robustness and margin to the schedule so

1331
00:48:34,630 --> 00:48:33,359
then to kind of answer your second part

1332
00:48:36,870 --> 00:48:34,640
of the question

1333
00:48:39,430 --> 00:48:36,880
does a successful flight or a problem

1334
00:48:41,510 --> 00:48:39,440
next week really change the need for 135

1335
00:48:43,510 --> 00:48:41,520
i'm not sure that it really changes that

1336
00:48:46,390 --> 00:48:43,520
need much what we're really looking for

1337
00:48:48,309 --> 00:48:46,400
from 135 is some margin you know we we

1338
00:48:50,470 --> 00:48:48,319

want him this is a unique opportunity

1339
00:48:52,069 --> 00:48:50,480
for us to get supplies to station and

1340
00:48:53,990 --> 00:48:52,079
that can protect for a variety of

1341
00:48:56,230 --> 00:48:54,000
problems that can incur later in the

1342
00:48:57,990 --> 00:48:56,240
development process for the commercial

1343
00:49:00,230 --> 00:48:58,000
cargo flights you know even though they

1344
00:49:01,670 --> 00:49:00,240
have a successful flight next week they

1345
00:49:03,270 --> 00:49:01,680
still not have they will not have

1346
00:49:04,790 --> 00:49:03,280
demonstrated a rendezvous and docking to

1347
00:49:07,349 --> 00:49:04,800
station or rendezvous and birthing to

1348
00:49:10,069 --> 00:49:07,359
station that's a very tough activity as

1349
00:49:11,910 --> 00:49:10,079
we've seen from atv and htv so there's

1350
00:49:13,910 --> 00:49:11,920
tons of challenges that occur in the

1351
00:49:15,670 --> 00:49:13,920
developmental program or even in space

1352
00:49:18,230 --> 00:49:15,680
flight in general so even though they

1353
00:49:20,549 --> 00:49:18,240
have a very good flight next week

1354
00:49:22,230 --> 00:49:20,559
which we fully expect them to do we need

1355
00:49:23,670 --> 00:49:22,240
to be very mindful that they still have

1356
00:49:25,589 --> 00:49:23,680
a lot of work in front of them on their

1357
00:49:28,230 --> 00:49:25,599
plate and to have some additional margin

1358
00:49:29,510 --> 00:49:28,240
provided by sts-135 to have some

1359
00:49:30,870 --> 00:49:29,520
assurance that if they're a little bit

1360
00:49:33,430 --> 00:49:30,880
late they need a little more time to

1361
00:49:34,950 --> 00:49:33,440
work a problem they have the margin on

1362
00:49:37,270 --> 00:49:34,960
station to go ahead and do that and it

1363
00:49:39,950 --> 00:49:37,280

doesn't impact research on stations so

1364
00:49:42,950 --> 00:49:39,960
so my my bottom line kind of is i think

1365
00:49:45,030 --> 00:49:42,960
sts-135 is extremely important to us it

1366
00:49:47,030 --> 00:49:45,040
adds critical margin where we can we'll

1367
00:49:49,750 --> 00:49:47,040
have to balance that against the budget

1368
00:49:51,510 --> 00:49:49,760
needs that that the overall nation faces

1369
00:49:52,470 --> 00:49:51,520
and nasa faces we'll have to make those

1370
00:49:54,150 --> 00:49:52,480
trades

1371
00:49:56,870 --> 00:49:54,160
amongst them it won't be an easy trade

1372
00:49:58,950 --> 00:49:56,880
but the technical reason for 135 sits

1373
00:50:00,630 --> 00:49:58,960
there in my mind it stays strong and

1374
00:50:01,990 --> 00:50:00,640
it's not diminished by what happens next

1375
00:50:03,349 --> 00:50:02,000
week in terms of test flights because

1376
00:50:04,309 --> 00:50:03,359
there's still a lot of work that can

1377
00:50:05,349 --> 00:50:04,319
happen

1378
00:50:07,190 --> 00:50:05,359
you know we thought we were going to

1379
00:50:08,950 --> 00:50:07,200
launch this shuttle flight we had no

1380
00:50:10,790 --> 00:50:08,960
idea we were going to get this

1381
00:50:13,030 --> 00:50:10,800
unique crack phenomena and slip the

1382
00:50:14,870 --> 00:50:13,040
shuttle as much as we did the same kind

1383
00:50:16,870 --> 00:50:14,880
of events can occur on the commercial

1384
00:50:19,190 --> 00:50:16,880
side they're not immune to any of the

1385
00:50:20,470 --> 00:50:19,200
the problems that that we face all the

1386
00:50:22,069 --> 00:50:20,480
time in fact they'll see the same

1387
00:50:24,549 --> 00:50:22,079
problems as they do space flight and to

1388
00:50:26,710 --> 00:50:24,559

have the margin afforded by sts-135

1389
00:50:28,390 --> 00:50:26,720
could be absolutely critical to doing

1390
00:50:31,349 --> 00:50:28,400
really good research on board space

1391
00:50:35,270 --> 00:50:32,790
okay let's see i'd like to thank

1392
00:50:36,790 --> 00:50:35,280
everybody for participating today a

1393
00:50:38,950 --> 00:50:36,800
couple of quick programming notes

1394
00:50:41,589 --> 00:50:38,960
associated with that spacex launch next

1395
00:50:43,270 --> 00:50:41,599
week that mr gerstenmaier mentioned that

1396
00:50:45,750 --> 00:50:43,280
there is a pre-launch news conference at

1397
00:50:46,950 --> 00:50:45,760
1 30 in the afternoon eastern time

1398
00:50:50,870 --> 00:50:46,960
monday

1399
00:50:53,430 --> 00:50:50,880
for that launch and the launch coverage

1400
00:50:55,270 --> 00:50:53,440
for the spacex launch is scheduled to

1401
00:50:57,510 --> 00:50:55,280
begin about five minutes before the

1402
00:51:00,150 --> 00:50:57,520
opening of about a three and a half hour

1403
00:51:01,190 --> 00:51:00,160
long window that starts at nine a.m or

1404
00:51:05,670 --> 00:51:01,200
so

1405
00:51:07,670 --> 00:51:05,680
we'll cover both of those events and

1406
00:51:09,829 --> 00:51:07,680
there will be a post

1407
00:51:12,069 --> 00:51:09,839
post launch and post recovery of the

1408
00:51:13,910 --> 00:51:12,079
dragon spacecraft news conference as

1409
00:51:15,829 --> 00:51:13,920
well so stay tuned for those events on

1410
00:51:17,430 --> 00:51:15,839
monday and tuesday next week thanks