
NASA

1
00:00:06,030 --> 00:00:04,390
welcome to this post landing news

2
00:00:07,909 --> 00:00:06,040
conference for space shuttle endeavour's

3
00:00:09,910 --> 00:00:07,919
sts-134 mission to the international

4
00:00:11,910 --> 00:00:09,920
space station joining us here at nasa's

5
00:00:13,589 --> 00:00:11,920
kennedy space center we have nasa's

6
00:00:15,829 --> 00:00:13,599
administrator associate administrator

7
00:00:17,830 --> 00:00:15,839
for space operations bill gerstenmaier

8
00:00:19,510 --> 00:00:17,840
good morning to his left is the space

9
00:00:21,269 --> 00:00:19,520
shuttle launch integration manager mike

10
00:00:22,550 --> 00:00:21,279
moses morning

11
00:00:24,230 --> 00:00:22,560
and finally we have shuttle launch

12
00:00:25,910 --> 00:00:24,240
director mike leinbach good morning

13
00:00:28,390 --> 00:00:25,920

everybody we'll start off with comments

14
00:00:29,830 --> 00:00:28,400
and then take questions mr meyer

15
00:00:31,029 --> 00:00:29,840
thanks howard

16
00:00:33,030 --> 00:00:31,039
again uh

17
00:00:35,270 --> 00:00:33,040
what a what a great ending to this

18
00:00:37,430 --> 00:00:35,280
really wonderful mission that we just uh

19
00:00:41,030 --> 00:00:37,440
we just got to witness um

20
00:00:43,430 --> 00:00:41,040
it was a phenomenal uh mission the ams i

21
00:00:44,790 --> 00:00:43,440
talked to professor ting today and

22
00:00:46,470 --> 00:00:44,800
they're getting great data from their

23
00:00:47,830 --> 00:00:46,480
instrument on board space station that

24
00:00:48,869 --> 00:00:47,840
couldn't have gone any better for this

25
00:00:51,510 --> 00:00:48,879
mission

26
00:00:53,270 --> 00:00:51,520
um the the crew and the soyuz undocking

27
00:00:55,110 --> 00:00:53,280
in the middle of the mission really

28
00:00:56,950 --> 00:00:55,120
added another dimension we haven't seen

29
00:00:58,549 --> 00:00:56,960
before and then the space walks and all

30
00:01:00,470 --> 00:00:58,559
the activities that the crew had done

31
00:01:01,349 --> 00:01:00,480
before was just just phenomenal so i

32
00:01:02,950 --> 00:01:01,359
can't

33
00:01:05,670 --> 00:01:02,960
say enough to the team here in florida

34
00:01:07,190 --> 00:01:05,680
that got the endeavor ready to go fly

35
00:01:09,030 --> 00:01:07,200
allowed us to do all those wonderful

36
00:01:10,789 --> 00:01:09,040
things i just described on orma if it

37
00:01:12,630 --> 00:01:10,799
wasn't for the teams that worked so hard

38
00:01:15,190 --> 00:01:12,640

and so tirelessly on the vehicle to get

39
00:01:17,109 --> 00:01:15,200
it ready to to go fly and operate the

40
00:01:19,109 --> 00:01:17,119
way it did it was just a phenomenal

41
00:01:20,950 --> 00:01:19,119
tribute to what they've done and then

42
00:01:22,710 --> 00:01:20,960
today to get to see the the rollout of

43
00:01:24,870 --> 00:01:22,720
atlantis out to the launch pad at the

44
00:01:27,670 --> 00:01:24,880
same time was also a really special

45
00:01:29,109 --> 00:01:27,680
event so it's a very good day today and

46
00:01:30,789 --> 00:01:29,119
i really want to thank the folks down

47
00:01:32,630 --> 00:01:30,799
here for all the dedication hard work

48
00:01:34,710 --> 00:01:32,640
that they put in as as we get ready to

49
00:01:36,870 --> 00:01:34,720
go forward so mike

50
00:01:38,630 --> 00:01:36,880
thanks bill so as bill said we've had a

51
00:01:40,310 --> 00:01:38,640
lot of going on here it's been

52
00:01:41,350 --> 00:01:40,320
it's been a heck of a month in the last

53
00:01:43,510 --> 00:01:41,360
four hours

54
00:01:45,190 --> 00:01:43,520
and i think we've used up our overtime

55
00:01:46,950 --> 00:01:45,200
budget for the entire month

56
00:01:49,670 --> 00:01:46,960
uh on the activities tonight but being

57
00:01:51,510 --> 00:01:49,680
able to send atlantis out to the pad uh

58
00:01:53,270 --> 00:01:51,520
and then go out and land endeavour was

59
00:01:54,550 --> 00:01:53,280
was really a combination that never

60
00:01:58,069 --> 00:01:54,560
really

61
00:02:00,310 --> 00:01:58,079
a nice uh

62
00:02:02,469 --> 00:02:00,320
a nice thing to do uh really made you

63
00:02:04,310 --> 00:02:02,479

reflect on on what we're doing and and

64
00:02:06,389 --> 00:02:04,320
maybe not quite as sad as the with the

65
00:02:08,229 --> 00:02:06,399
last of atlantis heading to the pad

66
00:02:09,749 --> 00:02:08,239
knowing that endeavor was coming back uh

67
00:02:11,589 --> 00:02:09,759
later that night so

68
00:02:13,350 --> 00:02:11,599
uh a really great mission is bill said

69
00:02:16,150 --> 00:02:13,360
fantastic work by the crew on orbit they

70
00:02:17,670 --> 00:02:16,160
did an absolutely amazing job um yeah i

71
00:02:19,190 --> 00:02:17,680
can't even begin to say enough about the

72
00:02:20,949 --> 00:02:19,200
the training that went into into the

73
00:02:23,350 --> 00:02:20,959
tasks they had to do and the effort they

74
00:02:24,949 --> 00:02:23,360
put in uh even just on a personal basis

75
00:02:27,270 --> 00:02:24,959
they they work really hard to make uh

76
00:02:28,470 --> 00:02:27,280
make space flight look easy and i think

77
00:02:30,229 --> 00:02:28,480
i think we made this one look pretty

78
00:02:31,990 --> 00:02:30,239
easy which is which is a real testament

79
00:02:32,949 --> 00:02:32,000
to everybody

80
00:02:36,390 --> 00:02:32,959
the

81
00:02:38,229 --> 00:02:36,400
good thing as well

82
00:02:39,589 --> 00:02:38,239
that ship's in really great shape we're

83
00:02:41,589 --> 00:02:39,599
still looking really good on our launch

84
00:02:43,190 --> 00:02:41,599
date and have plenty of margin

85
00:02:44,790 --> 00:02:43,200
and so we're we're happy to get that one

86
00:02:46,790 --> 00:02:44,800
flying here in july

87
00:02:48,470 --> 00:02:46,800
um out on the runway endeavour looked

88
00:02:50,309 --> 00:02:48,480

real good the crew was in good shape

89
00:02:51,670 --> 00:02:50,319
good spirits when they came down a

90
00:02:53,589 --> 00:02:51,680
pretty happy setup with the weather

91
00:02:55,990 --> 00:02:53,599
tonight it was pretty straightforward

92
00:02:57,110 --> 00:02:56,000
you know in in classic fashion we were

93
00:02:59,509 --> 00:02:57,120
yesterday we were worried a lot about

94
00:03:01,430 --> 00:02:59,519
cross winds and i think we had a

95
00:03:02,949 --> 00:03:01,440
zero wind peaking to zero out there on

96
00:03:04,630 --> 00:03:02,959
the runway tonight

97
00:03:07,030 --> 00:03:04,640
and all the mosquitoes had plenty of

98
00:03:08,790 --> 00:03:07,040
time to to fly around and find us

99
00:03:10,390 --> 00:03:08,800
but we had a little bit of rain showers

100
00:03:12,149 --> 00:03:10,400
coming in off over the ocean paid

101
00:03:14,710 --> 00:03:12,159
attention to for a little bit but

102
00:03:16,070 --> 00:03:14,720
having the sta aircraft up flying

103
00:03:17,270 --> 00:03:16,080
really helped us slice that up and

104
00:03:18,630 --> 00:03:17,280
recognize that they they were

105
00:03:19,670 --> 00:03:18,640
dissipating before they got to us and

106
00:03:20,470 --> 00:03:19,680
weren't really going to be a threat at

107
00:03:22,229 --> 00:03:20,480
all

108
00:03:23,830 --> 00:03:22,239
and so you heard tonight an early go for

109
00:03:25,589 --> 00:03:23,840
the deorbit burn from the from the

110
00:03:27,910 --> 00:03:25,599
flight control team back in houston with

111
00:03:30,470 --> 00:03:27,920
tony soccer as the entry flight director

112
00:03:31,670 --> 00:03:30,480
so really good job by them um and again

113
00:03:33,190 --> 00:03:31,680

like i said the ship looked great the

114
00:03:35,350 --> 00:03:33,200
crew looked great they were in really

115
00:03:37,509 --> 00:03:35,360
good spirits although it is rather late

116
00:03:39,589 --> 00:03:37,519
uh for them in their day they were after

117
00:03:41,910 --> 00:03:39,599
16 days i think happy to get uh get back

118
00:03:43,589 --> 00:03:41,920
to a bed and get a shower and take a nap

119
00:03:45,509 --> 00:03:43,599
so i think

120
00:03:47,190 --> 00:03:45,519
all in all uh i can't say enough about

121
00:03:48,869 --> 00:03:47,200
the team and how proud i have them how

122
00:03:50,229 --> 00:03:48,879
proud i am of them and how proud i am to

123
00:03:51,509 --> 00:03:50,239
be able to sit up here and represent

124
00:03:54,309 --> 00:03:51,519
that whole team along with these three

125
00:03:56,390 --> 00:03:54,319
guys uh it's an amazing team but uh but

126
00:03:58,470 --> 00:03:56,400
it's a good night good night for us

127
00:04:00,949 --> 00:03:58,480
okay thanks mike well i was able to walk

128
00:04:02,550 --> 00:04:00,959
around endeavor as well and look up at

129
00:04:04,550 --> 00:04:02,560
an amazing machine on the runway at the

130
00:04:05,350 --> 00:04:04,560
kennedy space center this this morning

131
00:04:08,309 --> 00:04:05,360
and

132
00:04:09,750 --> 00:04:08,319
ground crews who take so good care of

133
00:04:11,030 --> 00:04:09,760
her and and they're very very proud of

134
00:04:13,110 --> 00:04:11,040
the work they do and very proud of the

135
00:04:14,869 --> 00:04:13,120
space program so i was kind of sad to

136
00:04:16,390 --> 00:04:14,879
see the last one out there but uh you

137
00:04:18,710 --> 00:04:16,400
know we got her home safe commander

138
00:04:20,229 --> 00:04:18,720

kelly great landing and got to talk to

139
00:04:21,830 --> 00:04:20,239
him a little bit after the after the

140
00:04:23,749 --> 00:04:21,840
mission and and he was obviously in

141
00:04:25,990 --> 00:04:23,759
great spirits and and the entire crew

142
00:04:28,230 --> 00:04:26,000
was so great to have the endeavor crew

143
00:04:29,830 --> 00:04:28,240
back rolling atlantis out a little bit

144
00:04:31,430 --> 00:04:29,840
of a challenge with the leaky seal no

145
00:04:33,430 --> 00:04:31,440
big deal there we got that seal changed

146
00:04:34,710 --> 00:04:33,440
out and we rolled maybe 40 minutes late

147
00:04:36,070 --> 00:04:34,720
something like that

148
00:04:37,670 --> 00:04:36,080
and i was able to talk to commander

149
00:04:39,030 --> 00:04:37,680
ferguson on the on the deck of the

150
00:04:40,790 --> 00:04:39,040
mobile launcher for quite some time

151
00:04:42,710 --> 00:04:40,800
during the rollout and he's excited

152
00:04:44,150 --> 00:04:42,720
about his mission all for the prime crew

153
00:04:45,590 --> 00:04:44,160
were here for the for the roll out and

154
00:04:47,990 --> 00:04:45,600
experience that a couple of them for the

155
00:04:49,350 --> 00:04:48,000
first time so they they enjoyed the

156
00:04:51,590 --> 00:04:49,360
rollout quite a lot

157
00:04:53,189 --> 00:04:51,600
um so another you know as bill mentioned

158
00:04:54,629 --> 00:04:53,199
and mike as well it's been a great great

159
00:04:55,510 --> 00:04:54,639
morning so far at the kennedy space

160
00:04:57,430 --> 00:04:55,520
center

161
00:04:59,189 --> 00:04:57,440
atlantis is uh almost hard down now

162
00:05:01,270 --> 00:04:59,199
maybe well probably is hard down by now

163
00:05:04,070 --> 00:05:01,280

i haven't checked lately and we'll start

164
00:05:05,749 --> 00:05:04,080
the uh the pad processing this morning

165
00:05:07,430 --> 00:05:05,759
and uh we have some margin in the

166
00:05:09,990 --> 00:05:07,440
schedule we have a tanki test set up for

167
00:05:11,430 --> 00:05:10,000
us and then looking forward to launch on

168
00:05:12,870 --> 00:05:11,440
july the 8th so

169
00:05:14,310 --> 00:05:12,880
again another good day at the kennedy

170
00:05:15,990 --> 00:05:14,320
space center and the space shuttle

171
00:05:17,430 --> 00:05:16,000
program and international space station

172
00:05:20,230 --> 00:05:17,440
program it's been very really good

173
00:05:21,830 --> 00:05:20,240
morning thanks howard okay we'll take

174
00:05:23,749 --> 00:05:21,840
questions now when the microphone gets

175
00:05:24,870 --> 00:05:23,759
you please name news affiliation and

176
00:05:26,550 --> 00:05:24,880
would you like to answer your question

177
00:05:28,870 --> 00:05:26,560
we'll start with marcia marshall and

178
00:05:30,950 --> 00:05:28,880
associated press pray for mike kleinbach

179
00:05:33,830 --> 00:05:30,960
when do you think endeavor will be ready

180
00:05:36,790 --> 00:05:33,840
to ship out to california and what's the

181
00:05:39,350 --> 00:05:36,800
status of discovery and its

182
00:05:40,950 --> 00:05:39,360
release to the smithsonian

183
00:05:42,230 --> 00:05:40,960
you know i made myself a promise last

184
00:05:43,510 --> 00:05:42,240
time you asked me that question to have

185
00:05:45,270 --> 00:05:43,520
those schedules ready for you and i

186
00:05:47,430 --> 00:05:45,280
forgot to bring them

187
00:05:49,110 --> 00:05:47,440
um mike do you know this is the schedule

188
00:05:50,790 --> 00:05:49,120

for yeah last time i guessed and i was

189
00:05:53,510 --> 00:05:50,800
wrong so yeah i know

190
00:05:55,350 --> 00:05:53,520
sorry um this year i mean

191
00:05:56,469 --> 00:05:55,360
are any of these i believe it's

192
00:05:58,309 --> 00:05:56,479
i'm really

193
00:05:59,909 --> 00:05:58,319
early i was thinking february of next

194
00:06:02,550 --> 00:05:59,919
year for which

195
00:06:04,070 --> 00:06:02,560
ever for endeavor yeah okay so you're

196
00:06:07,590 --> 00:06:04,080
thinking early next year we'll get you

197
00:06:09,029 --> 00:06:07,600
the schedule yeah sorry about that

198
00:06:10,710 --> 00:06:09,039
um chris gebhardt with nasa

199
00:06:12,390 --> 00:06:10,720
spaceflight.com um

200
00:06:14,309 --> 00:06:12,400
i guess first what a pleasure was to

201
00:06:16,629 --> 00:06:14,319
follow that this mission from beginning

202
00:06:19,029 --> 00:06:16,639
to end and execution can't imagine that

203
00:06:22,710 --> 00:06:19,039
the work that went into that um

204
00:06:24,309 --> 00:06:22,720
for um for mr gerstenmaier um wondering

205
00:06:26,790 --> 00:06:24,319
if you can give any or if you want to

206
00:06:27,909 --> 00:06:26,800
give any comment to um

207
00:06:29,510 --> 00:06:27,919
both the human factor and the

208
00:06:31,110 --> 00:06:29,520
engineering factor of us assembly

209
00:06:33,350 --> 00:06:31,120
complete on the international space

210
00:06:34,629 --> 00:06:33,360
station for this flight and uh for mike

211
00:06:36,950 --> 00:06:34,639
moses um

212
00:06:39,110 --> 00:06:36,960
just looking for a brief update on the

213
00:06:40,950 --> 00:06:39,120

status of the debris investigation um

214
00:06:44,629 --> 00:06:40,960
from the debris that was seen just at

215
00:06:46,629 --> 00:06:44,639
srb separation on 134.

216
00:06:48,309 --> 00:06:46,639
yeah i'd say that again assembly

217
00:06:50,309 --> 00:06:48,319
complete is a pretty big milestone

218
00:06:51,909 --> 00:06:50,319
aboard station but

219
00:06:53,270 --> 00:06:51,919
again i don't want to focus on assembly

220
00:06:55,430 --> 00:06:53,280
complete but i want to look at the other

221
00:06:57,830 --> 00:06:55,440
side which is we really need to begin

222
00:06:59,510 --> 00:06:57,840
utilization in earnest and it's really

223
00:07:02,390 --> 00:06:59,520
neat that this flight especially brought

224
00:07:04,629 --> 00:07:02,400
the ams up to up to iss that's a really

225
00:07:06,309 --> 00:07:04,639
world-class instrument the data they're

226
00:07:08,390 --> 00:07:06,319
getting is phenomenal the amount of data

227
00:07:09,749 --> 00:07:08,400
they're receiving is really interesting

228
00:07:11,749 --> 00:07:09,759
to them they're they're getting all

229
00:07:13,350 --> 00:07:11,759
kinds of data we're looking at ways we

230
00:07:15,430 --> 00:07:13,360
can help even enhance some of the data

231
00:07:16,950 --> 00:07:15,440
they get to the ground so this is the

232
00:07:17,909 --> 00:07:16,960
time when we're really going to utilize

233
00:07:19,510 --> 00:07:17,919
station

234
00:07:21,430 --> 00:07:19,520
we're working lots of space act

235
00:07:23,270 --> 00:07:21,440
agreements to get some hardware flown as

236
00:07:25,270 --> 00:07:23,280
part of the national lab we're getting

237
00:07:26,870 --> 00:07:25,280
ready to go do potentially the

238
00:07:28,870 --> 00:07:26,880

cooperative announcement to have an

239
00:07:30,950 --> 00:07:28,880
organization go run that utilization for

240
00:07:33,350 --> 00:07:30,960
us at nasa that'll be probably about a

241
00:07:34,790 --> 00:07:33,360
month away from from this time so we're

242
00:07:36,790 --> 00:07:34,800
really gearing up

243
00:07:38,309 --> 00:07:36,800
heavily into the utilization phase and

244
00:07:40,230 --> 00:07:38,319
to get ready to really utilize this

245
00:07:42,870 --> 00:07:40,240
wonderful this wonderful research

246
00:07:45,350 --> 00:07:42,880
laboratory we have in space

247
00:07:46,869 --> 00:07:45,360
and chris your question about the debris

248
00:07:48,150 --> 00:07:46,879
one of the cameras on the srb the

249
00:07:49,589 --> 00:07:48,160
right-hand srb

250
00:07:51,589 --> 00:07:49,599
uh that was looking at the inner tank

251
00:07:54,390 --> 00:07:51,599
captured a a small

252
00:07:56,230 --> 00:07:54,400
cylindrical piece tumble away right at

253
00:07:57,350 --> 00:07:56,240
srb sep something we haven't ever seen

254
00:07:58,869 --> 00:07:57,360
before

255
00:08:00,309 --> 00:07:58,879
so we've done all the imagery analysis

256
00:08:02,150 --> 00:08:00,319
to show where that could be what the

257
00:08:04,790 --> 00:08:02,160
possible dimensions could be

258
00:08:05,909 --> 00:08:04,800
it could be up to two or three inches in

259
00:08:07,029 --> 00:08:05,919
length

260
00:08:08,950 --> 00:08:07,039
we've gone through and looked at all the

261
00:08:10,550 --> 00:08:08,960
hardware we have in the area

262
00:08:12,070 --> 00:08:10,560
nothing's missing for many the recovered

263
00:08:13,430 --> 00:08:12,080

hardware obviously the et side of that

264
00:08:15,189 --> 00:08:13,440
doesn't come back

265
00:08:16,790 --> 00:08:15,199
but from what we've seen in sep imagery

266
00:08:18,869 --> 00:08:16,800
everything looks fine

267
00:08:20,309 --> 00:08:18,879
so we still haven't found the root cause

268
00:08:22,150 --> 00:08:20,319
smoking gun yet

269
00:08:24,629 --> 00:08:22,160
and so that's still an open anomaly and

270
00:08:27,189 --> 00:08:24,639
we'll close it before we're ready to fly

271
00:08:29,589 --> 00:08:27,199
135 but for right now it's still kind of

272
00:08:31,189 --> 00:08:29,599
in that unexplained anomaly category um

273
00:08:32,149 --> 00:08:31,199
there's a few things in there that it

274
00:08:33,430 --> 00:08:32,159
could be

275
00:08:35,509 --> 00:08:33,440
that we haven't seen before and we want

276
00:08:37,350 --> 00:08:35,519
to make sure we're not we're not

277
00:08:38,630 --> 00:08:37,360
being a little too hopeful in in saying

278
00:08:40,709 --> 00:08:38,640
that's what it is

279
00:08:43,829 --> 00:08:40,719
some of the pyro wiring itself if this

280
00:08:45,670 --> 00:08:43,839
was a piece of uh of that wiring or a

281
00:08:47,670 --> 00:08:45,680
a lead or a capacitor right at the end

282
00:08:49,269 --> 00:08:47,680
of that that came off that that could

283
00:08:50,870 --> 00:08:49,279
explain what this is it's also very

284
00:08:52,470 --> 00:08:50,880
tricky that's a fisheye lens on that

285
00:08:54,870 --> 00:08:52,480
camera and so we're actually doing some

286
00:08:56,230 --> 00:08:54,880
tests on the real camera to say

287
00:08:57,990 --> 00:08:56,240
this could have been a piece of debris

288
00:08:59,910 --> 00:08:58,000

right up against the lens that was

289
00:09:02,230 --> 00:08:59,920
really maybe only a quarter inch long

290
00:09:04,310 --> 00:09:02,240
but but appeared to be big and so we're

291
00:09:06,389 --> 00:09:04,320
doing a lot of back out on the imagery

292
00:09:07,829 --> 00:09:06,399
and so that's all ongoing we cleared

293
00:09:10,150 --> 00:09:07,839
fast enough that we knew

294
00:09:11,910 --> 00:09:10,160
this the stack on 135 we didn't need to

295
00:09:13,350 --> 00:09:11,920
open up anything there and take a look

296
00:09:15,590 --> 00:09:13,360
we had really good close-out photos

297
00:09:17,190 --> 00:09:15,600
really good documentation in the process

298
00:09:18,949 --> 00:09:17,200
and so that was our first focus was make

299
00:09:20,949 --> 00:09:18,959
sure we could get out of the barn okay

300
00:09:23,509 --> 00:09:20,959
with 135 and now we'll switch back to

301
00:09:24,790 --> 00:09:23,519
looking at 134 and try to identify what

302
00:09:26,870 --> 00:09:24,800
it was and have that closed through our

303
00:09:28,310 --> 00:09:26,880
normal our normal in-flight anomaly

304
00:09:30,310 --> 00:09:28,320
process so i'm sure that one's going to

305
00:09:31,350 --> 00:09:30,320
get flagged as an ifa and we'll uh we'll

306
00:09:39,590 --> 00:09:31,360
discuss it at our flight readiness

307
00:09:43,430 --> 00:09:41,829
brown fox news radio good morning um

308
00:09:44,870 --> 00:09:43,440
could you uh

309
00:09:46,870 --> 00:09:44,880
whoever would like to answer this uh

310
00:09:49,430 --> 00:09:46,880
just take a few moments and sort of

311
00:09:50,550 --> 00:09:49,440
reflect on endeavor this uh

312
00:09:52,389 --> 00:09:50,560
she's a little bit different from the

313
00:09:54,630 --> 00:09:52,399

others in the fleet being that she was a

314
00:09:55,910 --> 00:09:54,640
replacement vehicle and uh did she live

315
00:09:57,990 --> 00:09:55,920
up to

316
00:10:00,150 --> 00:09:58,000
all hopes not just necessarily

317
00:10:01,350 --> 00:10:00,160
operationally but but

318
00:10:05,269 --> 00:10:01,360
you know in the

319
00:10:09,430 --> 00:10:06,790
let's go ahead and go

320
00:10:11,750 --> 00:10:09,440
well i guess i'll start um

321
00:10:13,350 --> 00:10:11,760
yeah no doubt endeavour's a fantastic

322
00:10:14,630 --> 00:10:13,360
ship we were out on the runway today

323
00:10:17,350 --> 00:10:14,640
talking about that it's just a little

324
00:10:18,790 --> 00:10:17,360
shy of of 20 years and and you look at

325
00:10:20,470 --> 00:10:18,800
it and you don't it doesn't look 20

326
00:10:21,829 --> 00:10:20,480
years old at all mike's mentioned that a

327
00:10:23,269 --> 00:10:21,839
couple times that

328
00:10:24,790 --> 00:10:23,279
it looks almost the same as it did the

329
00:10:26,310 --> 00:10:24,800
day it came in other than a couple of

330
00:10:28,710 --> 00:10:26,320
the tps blankets on the outside are a

331
00:10:31,030 --> 00:10:28,720
little darker and worn and showing

332
00:10:32,550 --> 00:10:31,040
showing signs of space flight but

333
00:10:34,550 --> 00:10:32,560
but it's a really fantastic ship you

334
00:10:36,949 --> 00:10:34,560
know it came in uh like you said as a

335
00:10:39,509 --> 00:10:36,959
replacement uh to to get us back from

336
00:10:41,350 --> 00:10:39,519
the the challenger accident and and uh

337
00:10:43,430 --> 00:10:41,360
and it really it's been a workhorse ever

338
00:10:45,190 --> 00:10:43,440

since so uh not only the vehicle but the

339
00:10:47,910 --> 00:10:45,200
teams down here that take care of it

340
00:10:50,230 --> 00:10:47,920
have have done an amazing job and again

341
00:10:52,389 --> 00:10:50,240
unbelievably proud of of all the firsts

342
00:10:54,630 --> 00:10:52,399
that that vehicle's accomplished

343
00:11:01,430 --> 00:10:54,640
and it it could fly another 20 years no

344
00:11:05,509 --> 00:11:03,509
hi ken kramer for space flight magazine

345
00:11:07,509 --> 00:11:05,519
um really for all of you just want to

346
00:11:09,190 --> 00:11:07,519
say thanks for doing a great job for

347
00:11:11,350 --> 00:11:09,200
science for bringing this this ams

348
00:11:13,030 --> 00:11:11,360
wonderful for mankind what you've done

349
00:11:15,509 --> 00:11:13,040
and i wonder if you could just reflect a

350
00:11:17,509 --> 00:11:15,519
little bit about each each of you your

351
00:11:21,269 --> 00:11:17,519
teams how they felt about bringing the

352
00:11:25,350 --> 00:11:22,230
well

353
00:11:29,750 --> 00:11:27,430
i don't know i think if i if i reflect

354
00:11:31,990 --> 00:11:29,760
back on ams there was a period of time

355
00:11:33,829 --> 00:11:32,000
when ams wasn't on the manifest

356
00:11:35,990 --> 00:11:33,839
and that was kind of a tough time for us

357
00:11:37,670 --> 00:11:36,000
because we knew it was a pretty

358
00:11:39,990 --> 00:11:37,680
sophisticated instrument it had

359
00:11:41,509 --> 00:11:40,000
potential to do a lot of great research

360
00:11:43,190 --> 00:11:41,519
but we just couldn't figure out a way to

361
00:11:44,630 --> 00:11:43,200
get it on the manifest

362
00:11:46,150 --> 00:11:44,640
we looked at a lot of different options

363
00:11:47,829 --> 00:11:46,160

of trying to fly it to space we looked

364
00:11:49,910 --> 00:11:47,839
at putting on expendable launch vehicle

365
00:11:51,110 --> 00:11:49,920
we looked at putting a tug to try to get

366
00:11:53,430 --> 00:11:51,120
it to station none of those things

367
00:11:55,670 --> 00:11:53,440
really panned out it was really uniquely

368
00:11:57,750 --> 00:11:55,680
designed for the orbiter and so we kind

369
00:12:00,310 --> 00:11:57,760
of kept the work kind of moving forward

370
00:12:02,790 --> 00:12:00,320
in in that process and just kind of let

371
00:12:05,430 --> 00:12:02,800
life play out and eventually we got the

372
00:12:06,949 --> 00:12:05,440
chance to get ams to go to orbit so i

373
00:12:09,190 --> 00:12:06,959
think there's a message for the teams

374
00:12:11,030 --> 00:12:09,200
out there that if you just stay focused

375
00:12:13,590 --> 00:12:11,040
on what you need to go do and and you

376
00:12:15,430 --> 00:12:13,600
keep options open sometimes life changes

377
00:12:17,269 --> 00:12:15,440
a little bit and you get a chance to to

378
00:12:19,190 --> 00:12:17,279
recoup some things that didn't look too

379
00:12:21,670 --> 00:12:19,200
too promising to begin with so there's

380
00:12:23,190 --> 00:12:21,680
that there's a chance there to keep that

381
00:12:25,269 --> 00:12:23,200
optimism there and you can still

382
00:12:27,750 --> 00:12:25,279
accomplish amazing things so it's kind

383
00:12:29,030 --> 00:12:27,760
of special to see ams on orbit and and

384
00:12:30,629 --> 00:12:29,040
know that little bit of history i just

385
00:12:31,829 --> 00:12:30,639
described to you that there were times

386
00:12:33,430 --> 00:12:31,839
when we weren't sure it was going to fly

387
00:12:35,990 --> 00:12:33,440
but to see it there and actually taking

388
00:12:38,310 --> 00:12:36,000

data is is a little special

389
00:12:40,069 --> 00:12:38,320
and from a from a flight readiness

390
00:12:41,430 --> 00:12:40,079
review side when we when we started

391
00:12:43,590 --> 00:12:41,440
talking about being ready to fly and we

392
00:12:45,110 --> 00:12:43,600
reviewed payload status uh we talked

393
00:12:46,470 --> 00:12:45,120
about this payload a lot and it really

394
00:12:47,350 --> 00:12:46,480
represented what bill mentioned at the

395
00:12:49,910 --> 00:12:47,360
beginning

396
00:12:51,590 --> 00:12:49,920
which is uh it's kind of that

397
00:12:54,069 --> 00:12:51,600
it's become the flagship of the bridge

398
00:12:55,829 --> 00:12:54,079
of assembly complete into

399
00:12:56,790 --> 00:12:55,839
space station science utilization and

400
00:12:58,230 --> 00:12:56,800
really

401
00:13:00,150 --> 00:12:58,240
the team was pretty excited about being

402
00:13:02,550 --> 00:13:00,160
able to to carry that one up and and

403
00:13:04,629 --> 00:13:02,560
have it be such a flagship type of

404
00:13:06,949 --> 00:13:04,639
of of experiment at that world-class

405
00:13:08,629 --> 00:13:06,959
experiment that is going to return what

406
00:13:09,990 --> 00:13:08,639
they expect is going to be great science

407
00:13:11,670 --> 00:13:10,000
and then the the potential to find

408
00:13:12,949 --> 00:13:11,680
things that they haven't even expected

409
00:13:15,030 --> 00:13:12,959
is going to be even better and i think

410
00:13:17,110 --> 00:13:15,040
that's what its legacy will be

411
00:13:19,030 --> 00:13:17,120
and so from from a shuttle program team

412
00:13:20,949 --> 00:13:19,040
it is one of those things it's a good

413
00:13:22,470 --> 00:13:20,959

um it's a good thing that gives you some

414
00:13:24,470 --> 00:13:22,480
comfort knowing that as we as we wind

415
00:13:25,509 --> 00:13:24,480
down we're taking station and making it

416
00:13:27,350 --> 00:13:25,519
exactly what it needs to be for the

417
00:13:29,190 --> 00:13:27,360
future

418
00:13:30,710 --> 00:13:29,200
and i think from my perspective i don't

419
00:13:32,870 --> 00:13:30,720
get to deal with the payloads a heck of

420
00:13:35,269 --> 00:13:32,880
a lot we're mostly concentrated in the

421
00:13:37,110 --> 00:13:35,279
shuttle world but i do reflect back on

422
00:13:39,509 --> 00:13:37,120
our first launch attempt that we had to

423
00:13:41,189 --> 00:13:39,519
scrub back in late april and uh

424
00:13:44,389 --> 00:13:41,199
professor ting came through the firing

425
00:13:46,550 --> 00:13:44,399
room and and uh was handing out uh books

426
00:13:49,269 --> 00:13:46,560
about the ams and i asked him to sign

427
00:13:50,150 --> 00:13:49,279
the copy he gave me and and

428
00:13:55,430 --> 00:13:50,160
he

429
00:13:57,189 --> 00:13:55,440
of this whole payload and but of a very

430
00:13:58,870 --> 00:13:57,199
very large family

431
00:14:00,550 --> 00:13:58,880
that uh that has worked on this

432
00:14:02,790 --> 00:14:00,560
particular instrument for many many

433
00:14:04,310 --> 00:14:02,800
years and he was just a very very proud

434
00:14:06,150 --> 00:14:04,320
father and he was looking forward to

435
00:14:08,550 --> 00:14:06,160
getting it on orbit and and having it

436
00:14:10,310 --> 00:14:08,560
work and and it's doing just that now so

437
00:14:13,750 --> 00:14:10,320
i'm sure he's extremely pleased right

438
00:14:18,949 --> 00:14:16,230

irene klotz with reuters for mike

439
00:14:21,189 --> 00:14:18,959
lineback what is the um date for the

440
00:14:23,990 --> 00:14:21,199
atlanta's tanking test please

441
00:14:26,710 --> 00:14:24,000
tanking test will be june 15th thanks

442
00:14:28,389 --> 00:14:26,720
and for uh bill gerstenmaier um could

443
00:14:32,150 --> 00:14:28,399
you just give us a little status on

444
00:14:33,350 --> 00:14:32,160
where spacex and orbital stands on their

445
00:14:34,470 --> 00:14:33,360
cots

446
00:14:37,030 --> 00:14:34,480
demo

447
00:14:39,910 --> 00:14:37,040
thanks yeah i think

448
00:14:41,829 --> 00:14:39,920
spacex's demo is going to be in the fall

449
00:14:44,470 --> 00:14:41,839
we were thinking

450
00:14:47,750 --> 00:14:44,480
i think around october november kind of

451
00:14:49,509 --> 00:14:47,760
time frame maybe september for spacex

452
00:14:51,350 --> 00:14:49,519
we still haven't made the decision yet

453
00:14:53,590 --> 00:14:51,360
whether we're going to combine their

454
00:14:55,829 --> 00:14:53,600
demonstration missions two and three

455
00:14:57,269 --> 00:14:55,839
together into one mission we're heading

456
00:14:59,189 --> 00:14:57,279
in that direction

457
00:15:01,509 --> 00:14:59,199
we still need to do some more additional

458
00:15:02,710 --> 00:15:01,519
runs rendezvous prox ops runs to make

459
00:15:04,389 --> 00:15:02,720
sure that that's a reasonable

460
00:15:06,069 --> 00:15:04,399
combination to put those two flights

461
00:15:07,350 --> 00:15:06,079
together and you know we're not really

462
00:15:08,870 --> 00:15:07,360
cutting anything out of the on-orbit

463
00:15:10,550 --> 00:15:08,880

demonstration we're going to demonstrate

464
00:15:12,389 --> 00:15:10,560
everything on in the first mission just

465
00:15:13,910 --> 00:15:12,399
like we were originally

466
00:15:16,550 --> 00:15:13,920
excuse me and then we had the second

467
00:15:18,069 --> 00:15:16,560
mission right afterwards and and we'll

468
00:15:19,990 --> 00:15:18,079
make that decision here in june but

469
00:15:23,030 --> 00:15:20,000
that's aiming towards the fall

470
00:15:26,790 --> 00:15:23,040
and then orbital is going to do a

471
00:15:28,870 --> 00:15:26,800
test firing i believe in september kind

472
00:15:30,550 --> 00:15:28,880
of time frame and then their launch of

473
00:15:32,629 --> 00:15:30,560
just the rocket will be in october

474
00:15:35,350 --> 00:15:32,639
followed by their first

475
00:15:37,189 --> 00:15:35,360
actual uh pickup and uh docking to space

476
00:15:40,230 --> 00:15:37,199
station sometime in the december time

477
00:15:42,710 --> 00:15:40,240
frame so basically this fall will be

478
00:15:46,310 --> 00:15:42,720
will be a pretty busy time for both both

479
00:15:48,230 --> 00:15:46,320
of the new cargo providers coming online

480
00:15:50,230 --> 00:15:48,240
so it's possible that orbital might dock

481
00:15:52,230 --> 00:15:50,240
before spacex

482
00:15:54,550 --> 00:15:52,240
uh no it'll be the other way around

483
00:15:55,590 --> 00:15:54,560
spacex will do their mission probably in

484
00:15:57,350 --> 00:15:55,600
october

485
00:15:59,829 --> 00:15:57,360
november and that will go all the way to

486
00:16:01,269 --> 00:15:59,839
station we think

487
00:16:02,470 --> 00:16:01,279
dock then

488
00:16:04,310 --> 00:16:02,480

but i'm pretty sure we're going to

489
00:16:06,550 --> 00:16:04,320
combine those into one mission and that

490
00:16:08,230 --> 00:16:06,560
mission will dock and then we and and

491
00:16:09,910 --> 00:16:08,240
i'm pretty sure it's maybe too strong a

492
00:16:11,509 --> 00:16:09,920
term but

493
00:16:13,110 --> 00:16:11,519
we need to go review all the data and

494
00:16:14,710 --> 00:16:13,120
make sure that it's right and if we have

495
00:16:15,990 --> 00:16:14,720
a reasonable chance of doing it we'll go

496
00:16:17,590 --> 00:16:16,000
ahead and do it in one mission so we

497
00:16:19,670 --> 00:16:17,600
think we'll see one spacex flight

498
00:16:21,269 --> 00:16:19,680
that'll be there before orbital and then

499
00:16:23,110 --> 00:16:21,279
also orbital before the end of the year

500
00:16:25,670 --> 00:16:23,120
so both of them could be both of them

501
00:16:27,590 --> 00:16:25,680
before the end of the year thanks

502
00:16:31,189 --> 00:16:27,600
james

503
00:16:33,350 --> 00:16:31,199
could any or

504
00:16:34,870 --> 00:16:33,360
all of you just reflect on having gotten

505
00:16:36,470 --> 00:16:34,880
to this point where

506
00:16:38,230 --> 00:16:36,480
you really only have one mission to go

507
00:16:40,389 --> 00:16:38,240
you're in the home stretch

508
00:16:42,069 --> 00:16:40,399
um obviously you want to

509
00:16:43,990 --> 00:16:42,079
you'll you'll focus on the work at hand

510
00:16:46,389 --> 00:16:44,000
like you always do but

511
00:16:48,150 --> 00:16:46,399
you know the end is so much closer now

512
00:16:51,110 --> 00:16:48,160
i'm sure it's that that's got to be even

513
00:16:53,269 --> 00:16:51,120

harder to uh keep out of your your daily

514
00:16:55,350 --> 00:16:53,279
thoughts and just just kind of

515
00:16:57,350 --> 00:16:55,360
your feelings and thoughts on having one

516
00:16:58,949 --> 00:16:57,360
to go and and having

517
00:17:00,389 --> 00:16:58,959
you know successfully even gotten to

518
00:17:02,870 --> 00:17:00,399
this point

519
00:17:03,910 --> 00:17:02,880
well for me yeah

520
00:17:05,590 --> 00:17:03,920
i haven't had a chance to think about

521
00:17:08,630 --> 00:17:05,600
that mostly because i'm just so tired

522
00:17:10,870 --> 00:17:08,640
tonight um and and really it's been a

523
00:17:12,390 --> 00:17:10,880
it's been a heck of a day two days

524
00:17:15,590 --> 00:17:12,400
actually if you count the fact we didn't

525
00:17:17,270 --> 00:17:15,600
sleep at all um and so uh seeing

526
00:17:18,390 --> 00:17:17,280
atlantis roll out was really when it

527
00:17:20,870 --> 00:17:18,400
started to hit me that you know we're

528
00:17:23,189 --> 00:17:20,880
never going to see that again

529
00:17:25,669 --> 00:17:23,199
and and uh and so that was a pretty big

530
00:17:27,510 --> 00:17:25,679
emotional event uh but again it was

531
00:17:29,270 --> 00:17:27,520
tempered with with turning right around

532
00:17:30,549 --> 00:17:29,280
and focusing on landing so

533
00:17:32,150 --> 00:17:30,559
i hate to say it right i still haven't

534
00:17:33,669 --> 00:17:32,160
had a chance to process that maybe after

535
00:17:35,190 --> 00:17:33,679
i get a couple hours of sleep i'll start

536
00:17:36,549 --> 00:17:35,200
thinking about it but

537
00:17:39,029 --> 00:17:36,559
it's obviously a big thing but we knew

538
00:17:40,549 --> 00:17:39,039

the end was coming um but yeah it is a

539
00:17:43,270 --> 00:17:40,559
little more realization that this is the

540
00:17:46,470 --> 00:17:43,280
last one and so now it switches to the

541
00:17:47,590 --> 00:17:46,480
the to the uh to the the you move past

542
00:17:48,789 --> 00:17:47,600
the sadness stage at least for me

543
00:17:50,710 --> 00:17:48,799
personally and you're into the more the

544
00:17:52,549 --> 00:17:50,720
regret stage that things that you're now

545
00:17:54,230 --> 00:17:52,559
not going to get to do again and you

546
00:17:55,990 --> 00:17:54,240
feel feel sorry for those opportunities

547
00:17:57,350 --> 00:17:56,000
that are that are behind you now no more

548
00:18:00,390 --> 00:17:57,360
in front of you

549
00:18:01,669 --> 00:18:00,400
stuff like roll out and and tanking

550
00:18:03,750 --> 00:18:01,679
tests and

551
00:18:07,990 --> 00:18:03,760
broken lca boxes and all kinds of things

552
00:18:11,990 --> 00:18:09,990
mark ratterman from talking space a

553
00:18:13,590 --> 00:18:12,000
question for bill gerstenmaier

554
00:18:15,990 --> 00:18:13,600
i think people connect with the shuttle

555
00:18:17,909 --> 00:18:16,000
program sometimes with a crew sometimes

556
00:18:20,950 --> 00:18:17,919
with a mission patch that symbol that we

557
00:18:23,430 --> 00:18:20,960
see so often sometimes with a payload

558
00:18:25,029 --> 00:18:23,440
is there a particular connection that

559
00:18:26,789 --> 00:18:25,039
that has stuck with you maybe through

560
00:18:29,669 --> 00:18:26,799
the years or a recent connection that

561
00:18:32,470 --> 00:18:29,679
you feel will will always be there as uh

562
00:18:34,950 --> 00:18:32,480
as one of the top ones for you

563
00:18:36,470 --> 00:18:34,960

yeah what's what's unique is uh when i

564
00:18:38,710 --> 00:18:36,480
think about the shuttle program i

565
00:18:40,870 --> 00:18:38,720
probably think about the people that

566
00:18:42,710 --> 00:18:40,880
i've got the privilege of working with

567
00:18:43,830 --> 00:18:42,720
throughout the years

568
00:18:46,310 --> 00:18:43,840
you know i was

569
00:18:48,150 --> 00:18:46,320
very lucky to get started in the shuttle

570
00:18:49,669 --> 00:18:48,160
business back in the wind tunnels in

571
00:18:51,990 --> 00:18:49,679
cleveland and

572
00:18:53,830 --> 00:18:52,000
did air data probe calibration stuff and

573
00:18:54,870 --> 00:18:53,840
shuttle-based heating on the external

574
00:18:56,549 --> 00:18:54,880
tanks so

575
00:18:57,750 --> 00:18:56,559
i've been around the program for a while

576
00:18:59,110 --> 00:18:57,760
and

577
00:19:00,950 --> 00:18:59,120
throughout those

578
00:19:03,430 --> 00:19:00,960
34 years that i've been here with nasa

579
00:19:05,830 --> 00:19:03,440
i've met some amazing folks that are

580
00:19:07,669 --> 00:19:05,840
unbelievably dedicated

581
00:19:08,710 --> 00:19:07,679
i think there's no finer workforce in

582
00:19:10,950 --> 00:19:08,720
the world

583
00:19:13,590 --> 00:19:10,960
they continually amaze me we continue to

584
00:19:15,990 --> 00:19:13,600
ask them to do the impossible to to make

585
00:19:18,150 --> 00:19:16,000
schedules work to do extra work to go

586
00:19:19,590 --> 00:19:18,160
above and beyond to strive for absolute

587
00:19:21,430 --> 00:19:19,600
perfection

588
00:19:23,669 --> 00:19:21,440

each and every time and they continue to

589
00:19:25,510 --> 00:19:23,679
rise to the occasion and deliver so when

590
00:19:27,590 --> 00:19:25,520
i think back about the shuttle program i

591
00:19:29,110 --> 00:19:27,600
think of the people that i have had the

592
00:19:31,430 --> 00:19:29,120
privilege of working with and they are

593
00:19:33,830 --> 00:19:31,440
some of the finest people that i've ever

594
00:19:34,630 --> 00:19:33,840
ever known and it's really my privilege

595
00:19:36,470 --> 00:19:34,640
to

596
00:19:43,750 --> 00:19:36,480
even be considered part of the team that

597
00:19:48,150 --> 00:19:46,230
todd halverson of florida today for mike

598
00:19:49,830 --> 00:19:48,160
leinbach just a couple of probably

599
00:19:51,990 --> 00:19:49,840
cleanup questions

600
00:19:54,510 --> 00:19:52,000
you mentioned margin in the schedule for

601
00:19:57,590 --> 00:19:54,520
135 i'm wondering how many

602
00:19:59,909 --> 00:19:57,600
contingency days you have and

603
00:20:03,029 --> 00:19:59,919
i'm also wondering what your dates are

604
00:20:03,990 --> 00:20:03,039
for the terminal countdown demonstration

605
00:20:04,789 --> 00:20:04,000
test

606
00:20:08,789 --> 00:20:04,799
okay

607
00:20:11,110 --> 00:20:08,799
i'll see tcdt will be june 23rd

608
00:20:13,029 --> 00:20:11,120
and the weekend of july the 4th we have

609
00:20:14,710 --> 00:20:13,039
all three days off so we're looking

610
00:20:16,310 --> 00:20:14,720
forward to that holiday

611
00:20:17,669 --> 00:20:16,320
we'll be working weekends leading up to

612
00:20:19,669 --> 00:20:17,679
that to that

613
00:20:20,789 --> 00:20:19,679

to the july 4th weekend holiday all

614
00:20:22,710 --> 00:20:20,799
weekends

615
00:20:23,990 --> 00:20:22,720
but it's different crews on on the

616
00:20:25,909 --> 00:20:24,000
different weekend days depending what

617
00:20:27,510 --> 00:20:25,919
the tasks are and so we're not going to

618
00:20:30,149 --> 00:20:27,520
be stressing any one particular group

619
00:20:33,190 --> 00:20:30,159
very much at all so it's a it's a it's a

620
00:20:34,390 --> 00:20:33,200
good schedule we feel good about it and

621
00:20:36,470 --> 00:20:34,400
we should be able to get to the eighth

622
00:20:39,190 --> 00:20:36,480
no problem

623
00:20:41,270 --> 00:20:39,200
yeah just to uh follow um

624
00:20:43,190 --> 00:20:41,280
you know i think i've

625
00:20:46,070 --> 00:20:43,200
heard both mike's today

626
00:20:48,549 --> 00:20:46,080
you know hinted overtime and i can

627
00:20:51,830 --> 00:20:48,559
remember after uh challenger you know

628
00:20:54,870 --> 00:20:51,840
overtime was such a big deal in the uh

629
00:20:56,710 --> 00:20:54,880
discussions of uh what went on leading

630
00:21:01,430 --> 00:20:56,720
up to that um

631
00:21:02,870 --> 00:21:01,440
uh that 51l mission and you set some

632
00:21:05,430 --> 00:21:02,880
gates in place

633
00:21:08,470 --> 00:21:05,440
if i remember correctly 60 hours a week

634
00:21:10,070 --> 00:21:08,480
and no more than so many days in a row

635
00:21:12,310 --> 00:21:10,080
et cetera et cetera and i'm wondering

636
00:21:15,909 --> 00:21:12,320
where you're sitting right now with your

637
00:21:18,470 --> 00:21:15,919
overtime rates as you go into this last

638
00:21:20,470 --> 00:21:18,480

flow just kind of curious

639
00:21:22,390 --> 00:21:20,480
let's see i think mike's comment about

640
00:21:24,070 --> 00:21:22,400
overtime is just kind of off the cuff

641
00:21:25,830 --> 00:21:24,080
remark we were talking in the green room

642
00:21:27,190 --> 00:21:25,840
about it so it was just kind of a funny

643
00:21:30,950 --> 00:21:27,200
thing we were talking about

644
00:21:32,710 --> 00:21:30,960
the workplace uh time violation issue

645
00:21:34,950 --> 00:21:32,720
we track that very very closely in fact

646
00:21:37,029 --> 00:21:34,960
i'm responsible for part of it

647
00:21:39,110 --> 00:21:37,039
violations of the major magnitude

648
00:21:40,390 --> 00:21:39,120
require my my approval

649
00:21:44,549 --> 00:21:40,400
and

650
00:21:46,070 --> 00:21:44,559
violations require my my signature after

651
00:21:48,230 --> 00:21:46,080
the violation has occurred so we we

652
00:21:50,549 --> 00:21:48,240
track them very very closely and we're

653
00:21:52,710 --> 00:21:50,559
we're running very very low on on

654
00:21:54,789 --> 00:21:52,720
deviations and violations so the 60-hour

655
00:21:55,750 --> 00:21:54,799
rule and the 240 hours and one month

656
00:21:57,669 --> 00:21:55,760
rule

657
00:22:00,070 --> 00:21:57,679
and so you know we've laid out the

658
00:22:02,230 --> 00:22:00,080
schedule um and we've told the program

659
00:22:04,149 --> 00:22:02,240
what we think we can do as a processing

660
00:22:05,909 --> 00:22:04,159
team they've accepted that schedule in

661
00:22:07,750 --> 00:22:05,919
fact they've you know we probably could

662
00:22:09,669 --> 00:22:07,760
have said an earlier launch date on july

663
00:22:11,430 --> 00:22:09,679

the 8th frankly but

664
00:22:12,710 --> 00:22:11,440
but we told mike and the rest of the

665
00:22:14,549 --> 00:22:12,720
program that we needed a couple extra

666
00:22:16,789 --> 00:22:14,559
days and and obviously they gave it to

667
00:22:18,070 --> 00:22:16,799
us and so we feel good about it again

668
00:22:20,710 --> 00:22:18,080
you know we're going to be working every

669
00:22:23,350 --> 00:22:20,720
weekend day other than july 4th weekend

670
00:22:24,230 --> 00:22:23,360
but it's different crews and and so

671
00:22:25,909 --> 00:22:24,240
once again we're not going to be

672
00:22:27,110 --> 00:22:25,919
stressing any particular group very very

673
00:22:29,110 --> 00:22:27,120
much at all

674
00:22:30,549 --> 00:22:29,120
we have a workforce in place we we track

675
00:22:33,669 --> 00:22:30,559
that also

676
00:22:35,590 --> 00:22:33,679
monthly with our workforce council

677
00:22:37,669 --> 00:22:35,600
and right now there are no reasons to be

678
00:22:38,549 --> 00:22:37,679
concerned about the workforce and and

679
00:22:40,630 --> 00:22:38,559
the

680
00:22:42,630 --> 00:22:40,640
work

681
00:22:44,390 --> 00:22:42,640
through the 135 flow

682
00:22:46,789 --> 00:22:44,400
yeah and i'll just i'll emphasize again

683
00:22:48,630 --> 00:22:46,799
that mike mike said it exactly right

684
00:22:50,149 --> 00:22:48,640
the team here for the last

685
00:22:51,430 --> 00:22:50,159
well ever since i came on board three

686
00:22:53,190 --> 00:22:51,440
years ago but really here in the last

687
00:22:54,710 --> 00:22:53,200
two years that is one of our major

688
00:22:56,390 --> 00:22:54,720

discussion items when we talk schedule

689
00:22:58,390 --> 00:22:56,400
it it's really the resources that we

690
00:22:59,830 --> 00:22:58,400
then apply to that schedule so we'll set

691
00:23:01,350 --> 00:22:59,840
the calendar you put the black bars on

692
00:23:03,669 --> 00:23:01,360
the chart it tells you what day you can

693
00:23:05,669 --> 00:23:03,679
make and then we sit down and we we have

694
00:23:07,190 --> 00:23:05,679
our usa workforce team

695
00:23:08,710 --> 00:23:07,200
led by patty stratton and mark nappy

696
00:23:11,110 --> 00:23:08,720
down here and and then our ground

697
00:23:13,830 --> 00:23:11,120
processing team with with mike and rita

698
00:23:15,990 --> 00:23:13,840
wilcox and uh and company working the

699
00:23:17,350 --> 00:23:16,000
the rest of that team that that lays the

700
00:23:18,390 --> 00:23:17,360
workforce on top of that and says okay

701
00:23:20,149 --> 00:23:18,400
these are the areas where we're a little

702
00:23:21,510 --> 00:23:20,159
critical on skills right now these are

703
00:23:23,430 --> 00:23:21,520
the areas where we know we have layoffs

704
00:23:25,270 --> 00:23:23,440
coming where's that work line up who's

705
00:23:27,430 --> 00:23:25,280
the real crew working and so it's not

706
00:23:28,950 --> 00:23:27,440
just you know what work gets done on a

707
00:23:31,029 --> 00:23:28,960
given day when i looked at this schedule

708
00:23:32,549 --> 00:23:31,039
and they brought me the july 8th i was

709
00:23:33,750 --> 00:23:32,559
initially a little nervous about it

710
00:23:35,510 --> 00:23:33,760
because it only had those three

711
00:23:36,870 --> 00:23:35,520
contingency days but when you look at

712
00:23:39,110 --> 00:23:36,880
the actual schedule and then you see

713
00:23:40,950 --> 00:23:39,120

that it's a different crew every weekend

714
00:23:42,549 --> 00:23:40,960
there's eight days of

715
00:23:43,669 --> 00:23:42,559
x-rays that we take after the tanki test

716
00:23:45,669 --> 00:23:43,679
and that's really all we're doing is

717
00:23:47,430 --> 00:23:45,679
x-rays at the pads so that team gets

718
00:23:49,190 --> 00:23:47,440
worked hard but the rest of the team

719
00:23:50,950 --> 00:23:49,200
isn't doing anything on those days and

720
00:23:53,190 --> 00:23:50,960
you really see that the schedule was

721
00:23:55,590 --> 00:23:53,200
built to protect the workforce and we've

722
00:23:57,510 --> 00:23:55,600
really been doing that as a almost a job

723
00:23:59,110 --> 00:23:57,520
number one for the last couple years

724
00:24:01,110 --> 00:23:59,120
knowing full well that with the burn

725
00:24:02,789 --> 00:24:01,120
down here at the end of the program

726
00:24:04,070 --> 00:24:02,799
managing that the resources of the

727
00:24:05,110 --> 00:24:04,080
people was going to be our real

728
00:24:08,070 --> 00:24:05,120
challenge

729
00:24:09,110 --> 00:24:08,080
and so i i i did make an off the cuff

730
00:24:11,669 --> 00:24:09,120
remark at the beginning but it was

731
00:24:13,190 --> 00:24:11,679
really a joke these guys this is very

732
00:24:15,110 --> 00:24:13,200
important to them and we be very careful

733
00:24:16,870 --> 00:24:15,120
that we don't we don't burn anybody out

734
00:24:19,110 --> 00:24:16,880
or push anything too hard

735
00:24:21,430 --> 00:24:19,120
you know another example that todd is is

736
00:24:23,029 --> 00:24:21,440
a couple three weeks ago i think we sat

737
00:24:25,269 --> 00:24:23,039
here and said you know i'm not quite

738
00:24:27,510 --> 00:24:25,279

sure we could do uh roll out and landing

739
00:24:29,750 --> 00:24:27,520
on the same day but we took a very hard

740
00:24:31,750 --> 00:24:29,760
look at the crews themselves down to the

741
00:24:33,590 --> 00:24:31,760
individuals and made sure that we had

742
00:24:35,430 --> 00:24:33,600
sufficient people to do both operations

743
00:24:36,230 --> 00:24:35,440
and not stress any any particular group

744
00:24:37,350 --> 00:24:36,240
and

745
00:24:39,669 --> 00:24:37,360
came forward with the recommendation

746
00:24:42,230 --> 00:24:39,679
yeah it looks good we can do it and

747
00:24:44,830 --> 00:24:42,240
so we pay very very close attention to

748
00:24:47,190 --> 00:24:44,840
the workforce very very proud of that

749
00:24:48,310 --> 00:24:47,200
program right no more jokes now that's

750
00:24:50,870 --> 00:24:48,320
what that means

751
00:24:52,710 --> 00:24:50,880
you got it amazing uh denise ciao with

752
00:24:55,110 --> 00:24:52,720
space.com a question for bill

753
00:24:57,430 --> 00:24:55,120
gerstenmaier mike moses i think um the

754
00:24:59,430 --> 00:24:57,440
134 crew seemed to be able to get a lot

755
00:25:00,870 --> 00:24:59,440
accomplished on orbit and especially

756
00:25:02,549 --> 00:25:00,880
with it being a fairly long mission i

757
00:25:04,230 --> 00:25:02,559
was wondering if you could comment on

758
00:25:06,070 --> 00:25:04,240
where that's placed the station program

759
00:25:07,590 --> 00:25:06,080
in terms of being in a good position for

760
00:25:08,789 --> 00:25:07,600
the post shuttle years and also maybe

761
00:25:10,950 --> 00:25:08,799
how it's laid the groundwork for the

762
00:25:12,710 --> 00:25:10,960
work that needs to be done in 135

763
00:25:14,630 --> 00:25:12,720

yeah i think the

764
00:25:16,310 --> 00:25:14,640
the extension days we added

765
00:25:19,029 --> 00:25:16,320
helped the station crews get ahead on

766
00:25:20,710 --> 00:25:19,039
some tasks that they needed to get done

767
00:25:23,110 --> 00:25:20,720
you know we wanted to get the oxygen

768
00:25:25,110 --> 00:25:23,120
generation system set up with the

769
00:25:26,390 --> 00:25:25,120
device in that actually

770
00:25:28,230 --> 00:25:26,400
this

771
00:25:29,269 --> 00:25:28,240
conditions the water to keep the ph

772
00:25:31,029 --> 00:25:29,279
level

773
00:25:32,149 --> 00:25:31,039
uh correct in the oxygen generation

774
00:25:34,549 --> 00:25:32,159
system and that was able to be

775
00:25:36,310 --> 00:25:34,559
accomplished the carbon dioxide removal

776
00:25:38,070 --> 00:25:36,320
system in node three we wanted to get

777
00:25:39,909 --> 00:25:38,080
that bed changed out and returned and

778
00:25:41,990 --> 00:25:39,919
the crews were able to get that done and

779
00:25:43,909 --> 00:25:42,000
get that ahead so we've got the life

780
00:25:45,590 --> 00:25:43,919
support system fully functional now in

781
00:25:47,909 --> 00:25:45,600
node three which is a backup to the

782
00:25:50,390 --> 00:25:47,919
russian system which is really good and

783
00:25:51,990 --> 00:25:50,400
also will allow us to run this sabati a

784
00:25:55,430 --> 00:25:52,000
system which will generate some water

785
00:25:57,430 --> 00:25:55,440
for us from from a station standpoint so

786
00:25:59,430 --> 00:25:57,440
you know their extra hours on orbit

787
00:26:01,350 --> 00:25:59,440
really helped a lot and that you know

788
00:26:03,110 --> 00:26:01,360

the the power converter that takes the

789
00:26:04,710 --> 00:26:03,120
station power and then allows us to

790
00:26:06,710 --> 00:26:04,720
power down the fuel cells that gives us

791
00:26:08,630 --> 00:26:06,720
that extra extension time frame has

792
00:26:10,549 --> 00:26:08,640
proved really invaluable for us if you

793
00:26:12,549 --> 00:26:10,559
look at when we put that on orbit and

794
00:26:14,230 --> 00:26:12,559
you look how many days we were had to

795
00:26:15,830 --> 00:26:14,240
actually able to add to the overall

796
00:26:19,750 --> 00:26:15,840
missions we probably got another

797
00:26:21,590 --> 00:26:19,760
missions worth of of of on orbit time

798
00:26:23,350 --> 00:26:21,600
available by putting that power system

799
00:26:25,830 --> 00:26:23,360
on the orbiter so that was a really good

800
00:26:27,830 --> 00:26:25,840
decision when we when we put that on

801
00:26:29,830 --> 00:26:27,840
atlantis unfortunately doesn't have that

802
00:26:31,909 --> 00:26:29,840
so that next mission will be limited and

803
00:26:33,909 --> 00:26:31,919
we won't be able to get get ahead on on

804
00:26:35,590 --> 00:26:33,919
the atlantis mission but but i think

805
00:26:36,950 --> 00:26:35,600
that's been really

806
00:26:40,070 --> 00:26:36,960
pretty phenomenal and it was pretty

807
00:26:41,830 --> 00:26:40,080
amazing when we had the 16 plus zero day

808
00:26:43,830 --> 00:26:41,840
mission and we had four days more of

809
00:26:45,269 --> 00:26:43,840
margin and

810
00:26:46,549 --> 00:26:45,279
we were kind of all joking amongst

811
00:26:48,549 --> 00:26:46,559
ourselves we're not sure we on the

812
00:26:51,029 --> 00:26:48,559
ground can make 20 days you know we

813
00:26:53,430 --> 00:26:51,039

don't know about the crew but but it it

814
00:26:55,669 --> 00:26:53,440
that's an awful long mission for us

815
00:26:57,669 --> 00:26:55,679
and uh but it worked out really well so

816
00:26:59,669 --> 00:26:57,679
i i can't see again it really sets

817
00:27:01,830 --> 00:26:59,679
station up very well to be ready to go

818
00:27:03,830 --> 00:27:01,840
uh to go do operations without the

819
00:27:05,269 --> 00:27:03,840
shuttle

820
00:27:06,149 --> 00:27:05,279
you have a few more follow-up questions

821
00:27:09,190 --> 00:27:06,159
thank you

822
00:27:10,789 --> 00:27:09,200
evan brown fox news radio um could you

823
00:27:12,390 --> 00:27:10,799
uh again whoever would like to take it

824
00:27:13,830 --> 00:27:12,400
talk about um

825
00:27:16,390 --> 00:27:13,840
the end of

826
00:27:19,110 --> 00:27:16,400
shuttle evas uh obviously i think we had

827
00:27:21,350 --> 00:27:19,120
the last the last shuttle-based dva uh

828
00:27:23,430 --> 00:27:21,360
with this mission um what did we learn

829
00:27:26,549 --> 00:27:23,440
about eva what did shuttle the shuttle

830
00:27:28,310 --> 00:27:26,559
program contribute to that um and uh

831
00:27:30,230 --> 00:27:28,320
what's going to happen to the to the

832
00:27:31,990 --> 00:27:30,240
emu's are they going to become museum

833
00:27:34,950 --> 00:27:32,000
pieces themselves

834
00:27:37,750 --> 00:27:34,960
let's see uh you know technically this

835
00:27:39,269 --> 00:27:37,760
was the last shuttle train dva we

836
00:27:40,549 --> 00:27:39,279
haven't done a shuttle based eva other

837
00:27:42,549 --> 00:27:40,559
than the hubble mission in a very long

838
00:27:44,070 --> 00:27:42,559

time evas go out of the station airlock

839
00:27:45,430 --> 00:27:44,080
so we're using station airlock station

840
00:27:46,950 --> 00:27:45,440
assets

841
00:27:48,789 --> 00:27:46,960
we take our suits up and bring them back

842
00:27:50,710 --> 00:27:48,799
because it's easy to service but in the

843
00:27:52,470 --> 00:27:50,720
in the meantime the eva project office

844
00:27:54,070 --> 00:27:52,480
and the space station program have been

845
00:27:56,310 --> 00:27:54,080
slowly upgrading those units to be able

846
00:27:57,430 --> 00:27:56,320
to have more on orbit lifetime and to be

847
00:27:59,750 --> 00:27:57,440
able to perform a lot of the maintenance

848
00:28:01,750 --> 00:27:59,760
that we do on the ground in orbit and so

849
00:28:03,750 --> 00:28:01,760
that's all been built and in place

850
00:28:05,590 --> 00:28:03,760
and is ready to take place so the emu's

851
00:28:07,590 --> 00:28:05,600
will go up and stay on orbit i forget

852
00:28:10,070 --> 00:28:07,600
their lifetime now but it's it's in the

853
00:28:12,149 --> 00:28:10,080
multiple years category and they can be

854
00:28:14,070 --> 00:28:12,159
rotated out with uh with cargo resupply

855
00:28:17,350 --> 00:28:14,080
if you need to replace parts and and

856
00:28:18,549 --> 00:28:17,360
bring a a hut a hard upper torso back or

857
00:28:21,430 --> 00:28:18,559
or something like that but basically

858
00:28:23,350 --> 00:28:21,440
we've stocked the airlock on station for

859
00:28:25,909 --> 00:28:23,360
us-based evas that we'll need to do

860
00:28:27,430 --> 00:28:25,919
throughout um and so so from that

861
00:28:28,870 --> 00:28:27,440
standpoint it's not really the end of

862
00:28:30,310 --> 00:28:28,880
anything it's it's the end of the fact

863
00:28:32,870 --> 00:28:30,320

that we have that dedicated training

864
00:28:34,789 --> 00:28:32,880
time on the ground to to take a crew two

865
00:28:35,990 --> 00:28:34,799
years out and know exactly what they're

866
00:28:38,230 --> 00:28:36,000
going to do and have perfectly

867
00:28:39,430 --> 00:28:38,240
choreographed timelines and so station

868
00:28:41,510 --> 00:28:39,440
assembly has shown us a couple things

869
00:28:43,350 --> 00:28:41,520
one is to be as efficient as we are in

870
00:28:44,630 --> 00:28:43,360
shuttle-based dvas you needed to do that

871
00:28:47,430 --> 00:28:44,640
you needed to spend that time on the

872
00:28:49,190 --> 00:28:47,440
ground and train to know exactly what

873
00:28:51,350 --> 00:28:49,200
you're doing and exactly where you are

874
00:28:53,110 --> 00:28:51,360
but but to move into further exploration

875
00:28:54,389 --> 00:28:53,120
and how we go in the future you're not

876
00:28:55,990 --> 00:28:54,399
going to have that opportunity to have

877
00:28:57,590 --> 00:28:56,000
somebody who's practiced just that one

878
00:28:59,350 --> 00:28:57,600
task and knows how to do it very well

879
00:29:02,310 --> 00:28:59,360
you need to bring a tool set with you of

880
00:29:03,990 --> 00:29:02,320
skills skill based tasks and stations

881
00:29:05,909 --> 00:29:04,000
really shown us the the way to train

882
00:29:07,750 --> 00:29:05,919
crews to do that and allowed us to throw

883
00:29:09,029 --> 00:29:07,760
tasks in and out move things around

884
00:29:11,510 --> 00:29:09,039
you're seeing a lot of the tasks on

885
00:29:14,070 --> 00:29:11,520
these last couple missions be that

886
00:29:15,990 --> 00:29:14,080
laundry list of hey we have 15 other

887
00:29:17,990 --> 00:29:16,000
things we need to do let's throw them in

888
00:29:20,389 --> 00:29:18,000

we choreograph it well because we can

889
00:29:22,070 --> 00:29:20,399
train it but but stage evas which is the

890
00:29:23,909 --> 00:29:22,080
ones we do when when there's no shuttle

891
00:29:26,149 --> 00:29:23,919
present and what we'll be doing from now

892
00:29:27,669 --> 00:29:26,159
on um just aren't as time efficient but

893
00:29:29,750 --> 00:29:27,679
they really can accomplish all the same

894
00:29:31,350 --> 00:29:29,760
activities the good news on station is

895
00:29:33,669 --> 00:29:31,360
there's not that many systems that need

896
00:29:35,269 --> 00:29:33,679
immediate eva attention like in the next

897
00:29:36,470 --> 00:29:35,279
hour or so you have a few days before

898
00:29:37,909 --> 00:29:36,480
you have to go out

899
00:29:39,430 --> 00:29:37,919
and those timelines have been pre-built

900
00:29:41,110 --> 00:29:39,440
and pre-trained

901
00:29:42,549 --> 00:29:41,120
and so then the rest of it's just that

902
00:29:44,310 --> 00:29:42,559
throw the skill set together get ready

903
00:29:45,990 --> 00:29:44,320
to go and then go out the door so i

904
00:29:47,110 --> 00:29:46,000
think we've learned that by being able

905
00:29:48,549 --> 00:29:47,120
to have

906
00:29:51,029 --> 00:29:48,559
the experience base of being able to

907
00:29:52,389 --> 00:29:51,039
train really hard practice really hard

908
00:29:54,389 --> 00:29:52,399
and then go up and maybe not be able to

909
00:29:56,230 --> 00:29:54,399
fly exactly what you had trained come

910
00:29:57,669 --> 00:29:56,240
back and recognize that yeah even though

911
00:29:59,430 --> 00:29:57,679
that task wasn't what i practiced for i

912
00:30:01,110 --> 00:29:59,440
was still able to do it very well and

913
00:30:03,990 --> 00:30:01,120

that let us take baby steps down that

914
00:30:05,590 --> 00:30:04,000
path to know that that i think i know

915
00:30:07,750 --> 00:30:05,600
the station program wouldn't hesitate

916
00:30:08,789 --> 00:30:07,760
probably to do anything outside eva and

917
00:30:10,230 --> 00:30:08,799
the crew office would be right there

918
00:30:11,269 --> 00:30:10,240
with them to say yep we haven't run that

919
00:30:13,990 --> 00:30:11,279
in the pool but we're ready to go out

920
00:30:15,990 --> 00:30:14,000
the door and do it um and the the ground

921
00:30:17,830 --> 00:30:16,000
team really gained a lot of experience

922
00:30:19,269 --> 00:30:17,840
as well you know that's something that

923
00:30:20,710 --> 00:30:19,279
that is a true testament right you think

924
00:30:22,470 --> 00:30:20,720
back the station we're talking about

925
00:30:25,590 --> 00:30:22,480
assembly complete you know we built this

926
00:30:27,029 --> 00:30:25,600
thing for the last 10 plus years and

927
00:30:28,950 --> 00:30:27,039
and i can't really

928
00:30:31,029 --> 00:30:28,960
list too many things that didn't

929
00:30:32,789 --> 00:30:31,039
actually fit together i mean you know

930
00:30:34,070 --> 00:30:32,799
the biggest fear that that kept people

931
00:30:35,830 --> 00:30:34,080
up i know my wife was involved in all

932
00:30:36,870 --> 00:30:35,840
the ammonia cable stuff on eba that

933
00:30:38,630 --> 00:30:36,880
she'd wake up in the middle of night

934
00:30:40,710 --> 00:30:38,640
that we were doing an eva and you'd come

935
00:30:42,549 --> 00:30:40,720
about a foot short and the cable's not

936
00:30:44,149 --> 00:30:42,559
quite long enough and all the ground

937
00:30:45,909 --> 00:30:44,159
testing and the work that the teams did

938
00:30:47,190 --> 00:30:45,919

you know that's a really big testament

939
00:30:48,310 --> 00:30:47,200
you think about how big that space

940
00:30:50,149 --> 00:30:48,320
station is

941
00:30:51,830 --> 00:30:50,159
and we built it part by part in the

942
00:30:53,750 --> 00:30:51,840
shuttle payload bay

943
00:30:55,830 --> 00:30:53,760
over the years and it all fit together

944
00:30:57,990 --> 00:30:55,840
it all worked perfect and and it's

945
00:30:59,509 --> 00:30:58,000
performing absolutely fantastic the

946
00:31:01,190 --> 00:30:59,519
maintenance hours aren't nearly what

947
00:31:03,669 --> 00:31:01,200
we're projecting

948
00:31:04,950 --> 00:31:03,679
eva's come a long way

949
00:31:07,029 --> 00:31:04,960
you go back all the way in the shuttle

950
00:31:08,630 --> 00:31:07,039
program we started with baby steps and

951
00:31:10,230 --> 00:31:08,640
now you look at what we just did to

952
00:31:12,389 --> 00:31:10,240
build that station it's an amazing it's

953
00:31:13,350 --> 00:31:12,399
an amazing skill set that we that we we

954
00:31:15,990 --> 00:31:13,360
built for

955
00:31:18,149 --> 00:31:16,000
for our space program

956
00:31:20,470 --> 00:31:18,159
okay

957
00:31:21,990 --> 00:31:20,480
ken kramer for space flight magazine for

958
00:31:23,830 --> 00:31:22,000
uh bill please can you tell us the

959
00:31:26,070 --> 00:31:23,840
status of um

960
00:31:27,830 --> 00:31:26,080
uh fly around on 135 are you still

961
00:31:30,549 --> 00:31:27,840
planning that and when will the pictures

962
00:31:32,389 --> 00:31:30,559
from paolo nespoli be released from the

963
00:31:33,669 --> 00:31:32,399

undock thank you

964
00:31:35,190 --> 00:31:33,679
yeah i don't think we're flying we're

965
00:31:36,710 --> 00:31:35,200
not going to plan to do a fly around at

966
00:31:38,149 --> 00:31:36,720
135.

967
00:31:41,509 --> 00:31:38,159
i'm not sure where the images are there

968
00:31:43,990 --> 00:31:41,519
with the data that went to moscow

969
00:31:46,870 --> 00:31:44,000
the russians have a soyuz launch coming

970
00:31:48,389 --> 00:31:46,880
up on june 8th and so i think probably

971
00:31:50,310 --> 00:31:48,399
sometime around that time frame we'll

972
00:31:52,470 --> 00:31:50,320
get the data from moscow and get those

973
00:31:54,149 --> 00:31:52,480
those images released so they're with

974
00:31:55,590 --> 00:31:54,159
the rest of the data the digital data

975
00:31:57,350 --> 00:31:55,600
that's been stored on the soil use the

976
00:31:59,350 --> 00:31:57,360
flash drop cards are there and we should

977
00:32:01,110 --> 00:31:59,360
get it around probably i would assume

978
00:32:03,590 --> 00:32:01,120
sometimes around the launch time of the

979
00:32:08,549 --> 00:32:05,830
um marsha done associated press again

980
00:32:11,110 --> 00:32:08,559
probably for bill but um greg shamitav

981
00:32:12,870 --> 00:32:11,120
was so wobbly yet so determined to to

982
00:32:15,029 --> 00:32:12,880
join his crew out there on the runway

983
00:32:16,950 --> 00:32:15,039
i'm just wondering how he's doing and

984
00:32:18,470 --> 00:32:16,960
anything you can say about him

985
00:32:20,789 --> 00:32:18,480
he seemed fine

986
00:32:22,630 --> 00:32:20,799
when we talked to him he was

987
00:32:24,310 --> 00:32:22,640
really excited about getting back to

988
00:32:26,070 --> 00:32:24,320

station again and

989
00:32:28,070 --> 00:32:26,080
getting a chance to go do the evas that

990
00:32:31,190 --> 00:32:28,080
he did so we had a good chance to talk

991
00:32:36,549 --> 00:32:32,549
chris

992
00:32:38,310 --> 00:32:36,559
mike leinbach you mentioned the the

993
00:32:40,070 --> 00:32:38,320
x-rays that you plan to do on the 135

994
00:32:41,750 --> 00:32:40,080
tank um

995
00:32:44,389 --> 00:32:41,760
on on the stringers and i'm just curious

996
00:32:46,230 --> 00:32:44,399
is that just an added safeguard measure

997
00:32:48,789 --> 00:32:46,240
based on what we saw with the tank on

998
00:32:50,470 --> 00:32:48,799
discovery and the 133 flow just to make

999
00:32:51,350 --> 00:32:50,480
sure everything's working

1000
00:32:52,950 --> 00:32:51,360
um

1001
00:32:55,029 --> 00:32:52,960
just to make sure everything's working

1002
00:32:56,710 --> 00:32:55,039
as as planned in there

1003
00:32:58,310 --> 00:32:56,720
and if i'm remembering correctly it's

1004
00:32:59,909 --> 00:32:58,320
only the front side or the orbiter

1005
00:33:01,750 --> 00:32:59,919
facing side of the tank that's getting

1006
00:33:03,990 --> 00:33:01,760
x-rayed because the the backside can't

1007
00:33:05,430 --> 00:33:04,000
be accessed at the pad correct yeah i

1008
00:33:06,950 --> 00:33:05,440
think that's a good question for mike to

1009
00:33:09,430 --> 00:33:06,960
answer yeah that's uh that's exactly

1010
00:33:11,669 --> 00:33:09,440
right so we did the uh the modification

1011
00:33:13,590 --> 00:33:11,679
to the et-138 the tank that's out there

1012
00:33:17,029 --> 00:33:13,600
on the pad now for uh for the atlantis

1013
00:33:19,509 --> 00:33:17,039

stack um and uh if you go back to the

1014
00:33:21,430 --> 00:33:19,519
the the history here et-137 had the

1015
00:33:22,789 --> 00:33:21,440
cracks so we modified it repaired the

1016
00:33:24,950 --> 00:33:22,799
cracks and modified the tank with the

1017
00:33:26,710 --> 00:33:24,960
stringer mod and the doublers we went

1018
00:33:28,149 --> 00:33:26,720
ahead and did that same mod on the tank

1019
00:33:30,630 --> 00:33:28,159
that just launched with the with

1020
00:33:32,470 --> 00:33:30,640
endeavor et 122 even though it wasn't

1021
00:33:33,750 --> 00:33:32,480
made of the same metal we didn't prove

1022
00:33:34,710 --> 00:33:33,760
that to ourselves until after we did the

1023
00:33:36,789 --> 00:33:34,720
mod

1024
00:33:38,710 --> 00:33:36,799
and so the et-138 is back in family it

1025
00:33:40,470 --> 00:33:38,720
has that suspect metal in the stringers

1026
00:33:41,509 --> 00:33:40,480
so we preemptively did the mod on that

1027
00:33:42,710 --> 00:33:41,519
tank

1028
00:33:44,549 --> 00:33:42,720
and so we're going to go ahead and do a

1029
00:33:45,669 --> 00:33:44,559
tanking test just to prove to ourselves

1030
00:33:49,430 --> 00:33:45,679
that

1031
00:33:51,509 --> 00:33:49,440
models are right and we do understand

1032
00:33:52,870 --> 00:33:51,519
how this mod performs and so the x-rays

1033
00:33:54,470 --> 00:33:52,880
are really that double check to show

1034
00:33:56,070 --> 00:33:54,480
that yeah we understand the stresses

1035
00:33:57,909 --> 00:33:56,080
that got put into the system you know

1036
00:34:00,549 --> 00:33:57,919
one of the the things we learned from

1037
00:34:04,549 --> 00:34:00,559
this investigation were was that

1038
00:34:07,990 --> 00:34:06,070

we had to have bad parts somewhere

1039
00:34:09,270 --> 00:34:08,000
something had to be a failure that

1040
00:34:10,310 --> 00:34:09,280
there was debris in there that shouldn't

1041
00:34:11,750 --> 00:34:10,320
have been in there there was a crack

1042
00:34:13,669 --> 00:34:11,760
that came from the factory and we

1043
00:34:15,190 --> 00:34:13,679
rapidly found that that was not the case

1044
00:34:16,310 --> 00:34:15,200
uh and then we kind of focused on well

1045
00:34:18,710 --> 00:34:16,320
then there has to be some kind of

1046
00:34:21,030 --> 00:34:18,720
assembly defect when we built the thing

1047
00:34:22,869 --> 00:34:21,040
we had some problem a spacer that wasn't

1048
00:34:25,270 --> 00:34:22,879
put in something like that and we found

1049
00:34:26,790 --> 00:34:25,280
that that wasn't the problem but we did

1050
00:34:29,109 --> 00:34:26,800
learn that there are areas that are very

1051
00:34:30,629 --> 00:34:29,119
susceptible to assembly stress

1052
00:34:32,230 --> 00:34:30,639
and you can you can lock up a lot of

1053
00:34:34,230 --> 00:34:32,240
load into the system

1054
00:34:35,750 --> 00:34:34,240
if you do have this thing stack up in

1055
00:34:37,349 --> 00:34:35,760
the tolerances but by itself that

1056
00:34:39,030 --> 00:34:37,359
assembly stress isn't enough to break a

1057
00:34:40,550 --> 00:34:39,040
stringer and then we finally came back

1058
00:34:42,629 --> 00:34:40,560
around full circle to find that really

1059
00:34:44,470 --> 00:34:42,639
we did have some material defects in the

1060
00:34:45,669 --> 00:34:44,480
fracture toughness of the metal a

1061
00:34:48,389 --> 00:34:45,679
property that we weren't directly

1062
00:34:50,310 --> 00:34:48,399
measuring in our acceptance testing

1063
00:34:51,750 --> 00:34:50,320

and so when you added that plus the

1064
00:34:53,669 --> 00:34:51,760
stack up of assembly stresses then you

1065
00:34:56,230 --> 00:34:53,679
got enough to actually see the cracks

1066
00:34:58,150 --> 00:34:56,240
that we had so uh we don't expect with

1067
00:34:59,829 --> 00:34:58,160
this mod that load is removed the

1068
00:35:01,030 --> 00:34:59,839
assembly stresses are still there we

1069
00:35:02,710 --> 00:35:01,040
haven't

1070
00:35:03,829 --> 00:35:02,720
taken the stringers off and removed all

1071
00:35:06,069 --> 00:35:03,839
the stress from the system and put them

1072
00:35:07,589 --> 00:35:06,079
back on all we did was drill out about

1073
00:35:09,510 --> 00:35:07,599
five fasteners on the tops of each

1074
00:35:11,030 --> 00:35:09,520
stringer and so those assembly stresses

1075
00:35:12,310 --> 00:35:11,040
are there the tanking test is to just

1076
00:35:13,910 --> 00:35:12,320
show ourselves that yep they are not out

1077
00:35:15,510 --> 00:35:13,920
of family with what we thought they were

1078
00:35:17,270 --> 00:35:15,520
those by themselves aren't big enough to

1079
00:35:19,670 --> 00:35:17,280
cause any problems

1080
00:35:21,510 --> 00:35:19,680
and so the the mod we put on takes care

1081
00:35:23,030 --> 00:35:21,520
of the metal and we're back in family we

1082
00:35:24,310 --> 00:35:23,040
have plenty of margins so yeah we're

1083
00:35:26,150 --> 00:35:24,320
just going to do front side x-rays on

1084
00:35:27,910 --> 00:35:26,160
the tank that we can get and that should

1085
00:35:29,109 --> 00:35:27,920
show everything fine obviously we'll

1086
00:35:30,470 --> 00:35:29,119
look at the data and if we're not happy

1087
00:35:33,190 --> 00:35:30,480
with what we see we'll take the next

1088
00:35:34,790 --> 00:35:33,200

course action but it really is that that

1089
00:35:38,550 --> 00:35:34,800
safety check of our band-aid that we put

1090
00:35:41,670 --> 00:35:39,990
james dean florida today i think for

1091
00:35:43,829 --> 00:35:41,680
mike leinbach

1092
00:35:45,030 --> 00:35:43,839
looking ahead just a little bit

1093
00:35:47,270 --> 00:35:45,040
there seems to be still pretty

1094
00:35:49,750 --> 00:35:47,280
widespread perception around the

1095
00:35:51,349 --> 00:35:49,760
community that in a couple months time

1096
00:35:52,790 --> 00:35:51,359
casey is essentially just going to close

1097
00:35:54,390 --> 00:35:52,800
its doors

1098
00:35:56,950 --> 00:35:54,400
and the space coast really won't be

1099
00:35:59,270 --> 00:35:56,960
deserving of its nickname

1100
00:36:01,109 --> 00:35:59,280
i wonder if you know is is there truth

1101
00:36:03,430 --> 00:36:01,119
uh to that perception at least for a

1102
00:36:05,670 --> 00:36:03,440
period of time or how would you describe

1103
00:36:08,550 --> 00:36:05,680
to to folks out there

1104
00:36:10,230 --> 00:36:08,560
work and life here at ksc post shuttle

1105
00:36:11,990 --> 00:36:10,240
even though we're not quite there yet

1106
00:36:13,510 --> 00:36:12,000
well see the the short answer is it will

1107
00:36:15,670 --> 00:36:13,520
be different without the shuttle program

1108
00:36:17,750 --> 00:36:15,680
that's that's certainly reality our

1109
00:36:19,829 --> 00:36:17,760
center director bob caban along with

1110
00:36:22,470 --> 00:36:19,839
nasa headquarters senior management is

1111
00:36:23,990 --> 00:36:22,480
working on very very very aggressively

1112
00:36:25,109 --> 00:36:24,000
plans for the kennedy space center along

1113
00:36:26,630 --> 00:36:25,119

with the other space centers are

1114
00:36:27,990 --> 00:36:26,640
affected by the by the shutdown the

1115
00:36:29,510 --> 00:36:28,000
shuttle program

1116
00:36:30,950 --> 00:36:29,520
there are preliminary plans in place

1117
00:36:32,230 --> 00:36:30,960
we're talking to other customers who may

1118
00:36:34,310 --> 00:36:32,240
want to use

1119
00:36:36,710 --> 00:36:34,320
the opf bays we're talking to customers

1120
00:36:38,710 --> 00:36:36,720
who may want to use a launch pad and

1121
00:36:40,630 --> 00:36:38,720
while those are preliminary discussions

1122
00:36:42,230 --> 00:36:40,640
i feel good that the kennedy space

1123
00:36:43,990 --> 00:36:42,240
center will be used in the future i

1124
00:36:46,790 --> 00:36:44,000
don't have a date i can't tell you when

1125
00:36:47,990 --> 00:36:46,800
when the next program comes here if it's

1126
00:36:50,150 --> 00:36:48,000
one of the commercial operators that

1127
00:36:51,829 --> 00:36:50,160
would like to use our facilities or when

1128
00:36:53,589 --> 00:36:51,839
we'll begin we're getting the the

1129
00:36:55,670 --> 00:36:53,599
direction from nasa and on building our

1130
00:36:57,829 --> 00:36:55,680
own heavy lift vehicle that that report

1131
00:36:58,630 --> 00:36:57,839
i believe bill is due at the end of june

1132
00:37:01,270 --> 00:36:58,640
you can

1133
00:37:02,870 --> 00:37:01,280
do more with that than i can but uh

1134
00:37:04,230 --> 00:37:02,880
it'll be different around here for a

1135
00:37:05,589 --> 00:37:04,240
period of time but we're looking forward

1136
00:37:07,030 --> 00:37:05,599
to the point in time when when we do

1137
00:37:08,950 --> 00:37:07,040
have another vehicle here we're going to

1138
00:37:11,990 --> 00:37:08,960

be able to launch and hire some of our

1139
00:37:15,430 --> 00:37:14,230
hi mike mackey from local 6 here in

1140
00:37:18,310 --> 00:37:15,440
orlando

1141
00:37:20,829 --> 00:37:18,320
the crew earlier was talking about how

1142
00:37:23,829 --> 00:37:20,839
when the shuttle program finally

1143
00:37:26,710 --> 00:37:23,839
completes that the country itself will

1144
00:37:29,430 --> 00:37:26,720
lose its status symbol it's something to

1145
00:37:32,230 --> 00:37:29,440
point to so what's next what will the

1146
00:37:33,990 --> 00:37:32,240
country the people be able to rally

1147
00:37:35,829 --> 00:37:34,000
around

1148
00:37:37,990 --> 00:37:35,839
once the shuttle program completes

1149
00:37:40,390 --> 00:37:38,000
itself

1150
00:37:42,950 --> 00:37:40,400
well we're really looking forward to go

1151
00:37:45,270 --> 00:37:42,960
kind of beyond low earth orbit is is our

1152
00:37:46,710 --> 00:37:45,280
next area that we're going to and then

1153
00:37:48,470 --> 00:37:46,720
when we take a look at what we need to

1154
00:37:49,990 --> 00:37:48,480
do that we need

1155
00:37:51,990 --> 00:37:50,000
a different vehicle than the shuttle we

1156
00:37:53,990 --> 00:37:52,000
need a vehicle that can re-enter from

1157
00:37:55,910 --> 00:37:54,000
the highest speeds that you would see

1158
00:37:58,870 --> 00:37:55,920
coming from like a lunar trajectory or

1159
00:38:00,470 --> 00:37:58,880
from even a geosynchronous orbit kind of

1160
00:38:01,349 --> 00:38:00,480
trajectory and that's more of a capsule

1161
00:38:03,670 --> 00:38:01,359
design

1162
00:38:04,550 --> 00:38:03,680
and we've recently approved the contract

1163
00:38:06,230 --> 00:38:04,560

for

1164
00:38:08,630 --> 00:38:06,240
the multi-purpose crew vehicle and

1165
00:38:11,030 --> 00:38:08,640
that'll be the orion contract that was

1166
00:38:13,030 --> 00:38:11,040
built in the capsule forest before so

1167
00:38:14,870 --> 00:38:13,040
that'll continue and move forward we're

1168
00:38:17,430 --> 00:38:14,880
right now trying to put together plans

1169
00:38:20,150 --> 00:38:17,440
to to find a new heavy lift launch

1170
00:38:21,030 --> 00:38:20,160
vehicle to launch that orion capsule and

1171
00:38:22,790 --> 00:38:21,040
also

1172
00:38:24,630 --> 00:38:22,800
be uh

1173
00:38:27,430 --> 00:38:24,640
have the ability to launch about 130

1174
00:38:29,109 --> 00:38:27,440
metric tons to to orbit the reason you

1175
00:38:31,430 --> 00:38:29,119
want a vehicle that big is if you really

1176
00:38:33,750 --> 00:38:31,440
want to go somewhere like to mars or to

1177
00:38:35,670 --> 00:38:33,760
any distances you really need a vehicle

1178
00:38:37,750 --> 00:38:35,680
that can carry much more mass than even

1179
00:38:39,430 --> 00:38:37,760
the shuttle can you know it took us how

1180
00:38:41,589 --> 00:38:39,440
many of our flights to build the station

1181
00:38:43,510 --> 00:38:41,599
i think roughly 38 shuttle flights or so

1182
00:38:45,829 --> 00:38:43,520
to put the station together the

1183
00:38:47,510 --> 00:38:45,839
station's mass is about the mass of a

1184
00:38:49,109 --> 00:38:47,520
vehicle you would have to take to mars

1185
00:38:51,670 --> 00:38:49,119
and you surely don't want to spend that

1186
00:38:53,829 --> 00:38:51,680
many missions building your your

1187
00:38:56,150 --> 00:38:53,839
your vehicle to go to mars in low earth

1188
00:38:58,550 --> 00:38:56,160

orbit you want a capability to get much

1189
00:39:00,630 --> 00:38:58,560
more mass together so in three or four

1190
00:39:02,790 --> 00:39:00,640
launches you can get you know large

1191
00:39:05,510 --> 00:39:02,800
portions of your spacecraft headed

1192
00:39:07,349 --> 00:39:05,520
towards mars landed on mars or or to a

1193
00:39:09,190 --> 00:39:07,359
near-earth asteroid and then you can

1194
00:39:11,190 --> 00:39:09,200
take the crew along with them so that

1195
00:39:12,790 --> 00:39:11,200
the next phase is to build together some

1196
00:39:14,630 --> 00:39:12,800
concrete plans

1197
00:39:16,870 --> 00:39:14,640
as mike said the first step will be for

1198
00:39:18,550 --> 00:39:16,880
us to talk you know we were required to

1199
00:39:20,069 --> 00:39:18,560
put together a report to congress on

1200
00:39:22,069 --> 00:39:20,079
what we're going to do with our capsule

1201
00:39:23,910 --> 00:39:22,079
and our heavy lift launch vehicle we

1202
00:39:25,750 --> 00:39:23,920
dropped an interim report in january

1203
00:39:27,430 --> 00:39:25,760
we're going to try to to flush out a

1204
00:39:29,109 --> 00:39:27,440
little bit with some more details about

1205
00:39:31,190 --> 00:39:29,119
specifically what work what areas we

1206
00:39:33,670 --> 00:39:31,200
want to move in and then start building

1207
00:39:36,069 --> 00:39:33,680
some concrete plans that head us to

1208
00:39:37,990 --> 00:39:36,079
those other destinations i just called

1209
00:39:40,230 --> 00:39:38,000
out we're also going to try to do some

1210
00:39:42,230 --> 00:39:40,240
work at the centers where we we need

1211
00:39:44,390 --> 00:39:42,240
more than just a crew vehicle and heavy

1212
00:39:46,550 --> 00:39:44,400
lift launch vehicle we need a deep space

1213
00:39:49,109 --> 00:39:46,560

habitat you know a place for the crew to

1214
00:39:50,710 --> 00:39:49,119
live something similar to to like a

1215
00:39:52,230 --> 00:39:50,720
module on station where the crew can

1216
00:39:54,390 --> 00:39:52,240
live for these long transit times they

1217
00:39:55,589 --> 00:39:54,400
can't live in the capsule for that time

1218
00:39:56,950 --> 00:39:55,599
we're going to try to do some of that

1219
00:39:58,470 --> 00:39:56,960
work in-house

1220
00:40:00,069 --> 00:39:58,480
with some of the centers looking at

1221
00:40:01,430 --> 00:40:00,079
those kind of things

1222
00:40:03,109 --> 00:40:01,440
if we need a lander for some

1223
00:40:05,589 --> 00:40:03,119
destinations we may need to work on a

1224
00:40:07,270 --> 00:40:05,599
lander so we've we've got some basic

1225
00:40:08,790 --> 00:40:07,280
pieces together we've identified the

1226
00:40:10,710 --> 00:40:08,800
parts we need to get beyond low earth

1227
00:40:12,630 --> 00:40:10,720
orbit now it's for us to put together

1228
00:40:14,470 --> 00:40:12,640
detailed plans and get ready to to move

1229
00:40:16,470 --> 00:40:14,480
out on that so i think you know we're

1230
00:40:18,390 --> 00:40:16,480
going to quickly change that focus from

1231
00:40:20,230 --> 00:40:18,400
what we've been doing in low earth orbit

1232
00:40:22,150 --> 00:40:20,240
utilize the heck out of space station

1233
00:40:24,069 --> 00:40:22,160
show that space has a real benefit to us

1234
00:40:25,910 --> 00:40:24,079
from a research standpoint that's the

1235
00:40:28,230 --> 00:40:25,920
that's the goal of station or one thing

1236
00:40:30,550 --> 00:40:28,240
that station can do you can use station

1237
00:40:32,470 --> 00:40:30,560
to maybe create a be a new economic

1238
00:40:34,230 --> 00:40:32,480

engine to create maybe a new market in

1239
00:40:36,630 --> 00:40:34,240
space that pulls other work to space

1240
00:40:37,670 --> 00:40:36,640
that's the station aspect it'll be it'll

1241
00:40:39,270 --> 00:40:37,680
be strong and then to work

1242
00:40:40,790 --> 00:40:39,280
internationally to build this plan to

1243
00:40:41,910 --> 00:40:40,800
get beyond low earth orbit and we're

1244
00:40:44,069 --> 00:40:41,920
continuing to work with all our

1245
00:40:45,990 --> 00:40:44,079
international partners to to figure out

1246
00:40:48,150 --> 00:40:46,000
exactly what that plan is and then move

1247
00:40:50,630 --> 00:40:48,160
forward so again i think it's it's a

1248
00:40:52,550 --> 00:40:50,640
lull but i think we can quickly get some

1249
00:40:54,390 --> 00:40:52,560
plans together and get some things that

1250
00:40:56,309 --> 00:40:54,400
are that are pretty inspiring to move

1251
00:40:57,990 --> 00:40:56,319
move forward and continue to stretch

1252
00:40:59,750 --> 00:40:58,000
ourselves and do those really hard

1253
00:41:01,670 --> 00:40:59,760
things that that we are really good at

1254
00:41:02,870 --> 00:41:01,680
doing and to require the workforce like

1255
00:41:05,109 --> 00:41:02,880
we got today

1256
00:41:08,230 --> 00:41:05,119
to really be dedicated to work as a team

1257
00:41:09,829 --> 00:41:08,240
to go do those those big tasks

1258
00:41:12,790 --> 00:41:09,839
we have one last question that goes to

1259
00:41:15,109 --> 00:41:12,800
evan hi evan brown fox news radio um if

1260
00:41:17,190 --> 00:41:15,119
i remember correctly uh

1261
00:41:19,109 --> 00:41:17,200
there was plans to place a plaque on the

1262
00:41:21,190 --> 00:41:19,119
runway where discoveries wheels came to

1263
00:41:23,430 --> 00:41:21,200

a stop uh will you do the same for

1264
00:41:25,510 --> 00:41:23,440
endeavor and what's the wording on that

1265
00:41:27,430 --> 00:41:25,520
plaque gonna gonna read and or has

1266
00:41:29,030 --> 00:41:27,440
discoveries actually been placed yet no

1267
00:41:30,790 --> 00:41:29,040
we're still working on that um i've

1268
00:41:32,470 --> 00:41:30,800
asked the uh some of the guys who've

1269
00:41:35,030 --> 00:41:32,480
worked landing for a long time to help

1270
00:41:37,109 --> 00:41:35,040
design that themselves and and yeah we

1271
00:41:38,550 --> 00:41:37,119
talked to the faa since the the landing

1272
00:41:40,230 --> 00:41:38,560
facility is an actual operational runway

1273
00:41:41,430 --> 00:41:40,240
we don't want to do anything to the

1274
00:41:42,630 --> 00:41:41,440
runway itself that would be a

1275
00:41:44,150 --> 00:41:42,640
maintenance problem

1276
00:41:46,630 --> 00:41:44,160
but at a minimum we'll put a marker off

1277
00:41:48,710 --> 00:41:46,640
on the side um and yeah the general

1278
00:41:50,950 --> 00:41:48,720
concept is basically to mark uh

1279
00:41:52,630 --> 00:41:50,960
mark wheel stop and and uh and kind of

1280
00:41:53,670 --> 00:41:52,640
denote which vehicle and how many miles

1281
00:41:56,230 --> 00:41:53,680
it's flown

1282
00:41:58,069 --> 00:41:56,240
um and uh and just try to to kind of

1283
00:41:59,109 --> 00:41:58,079
have a little memento of that you know

1284
00:42:00,069 --> 00:41:59,119
we've been talking about that there's

1285
00:42:01,349 --> 00:42:00,079
some

1286
00:42:03,349 --> 00:42:01,359
with a program that's been going on for

1287
00:42:04,950 --> 00:42:03,359
30 years we haven't stopped to

1288
00:42:06,150 --> 00:42:04,960

to add a lot of commemorative things

1289
00:42:08,150 --> 00:42:06,160
around the center because we're still

1290
00:42:09,510 --> 00:42:08,160
doing them now that we're we're winding

1291
00:42:10,950 --> 00:42:09,520
up we're having some folks take a look

1292
00:42:13,190 --> 00:42:10,960
at what we can do to kind of just

1293
00:42:15,990 --> 00:42:13,200
document uh you know

1294
00:42:18,150 --> 00:42:16,000
hear things were type of stuff it's a

1295
00:42:19,349 --> 00:42:18,160
it's a sad thing to do but we're going

1296
00:42:22,069 --> 00:42:19,359
to try to make sure we at least do a

1297
00:42:25,670 --> 00:42:24,470
okay that's our final question our next

1298
00:42:27,910 --> 00:42:25,680
media briefing will be with the

1299
00:42:28,790 --> 00:42:27,920
astronauts from endeavors scs-134

1300
00:42:30,470 --> 00:42:28,800
mission

1301
00:42:33,190 --> 00:42:30,480
that crew news conference is set to

1302
00:42:34,710 --> 00:42:33,200
begin at about 8 30 a.m eastern time but

1303
00:42:36,710 --> 00:42:34,720
it may be a little sooner so please stay

1304
00:42:38,470 --> 00:42:36,720
tuned to nasa television for the latest

1305
00:42:39,589 --> 00:42:38,480
in when the crew news conference will be

1306
00:42:42,829 --> 00:42:39,599
in the meantime for more information

1307
00:42:45,270 --> 00:42:42,839
about the scs-134 mission you can go to