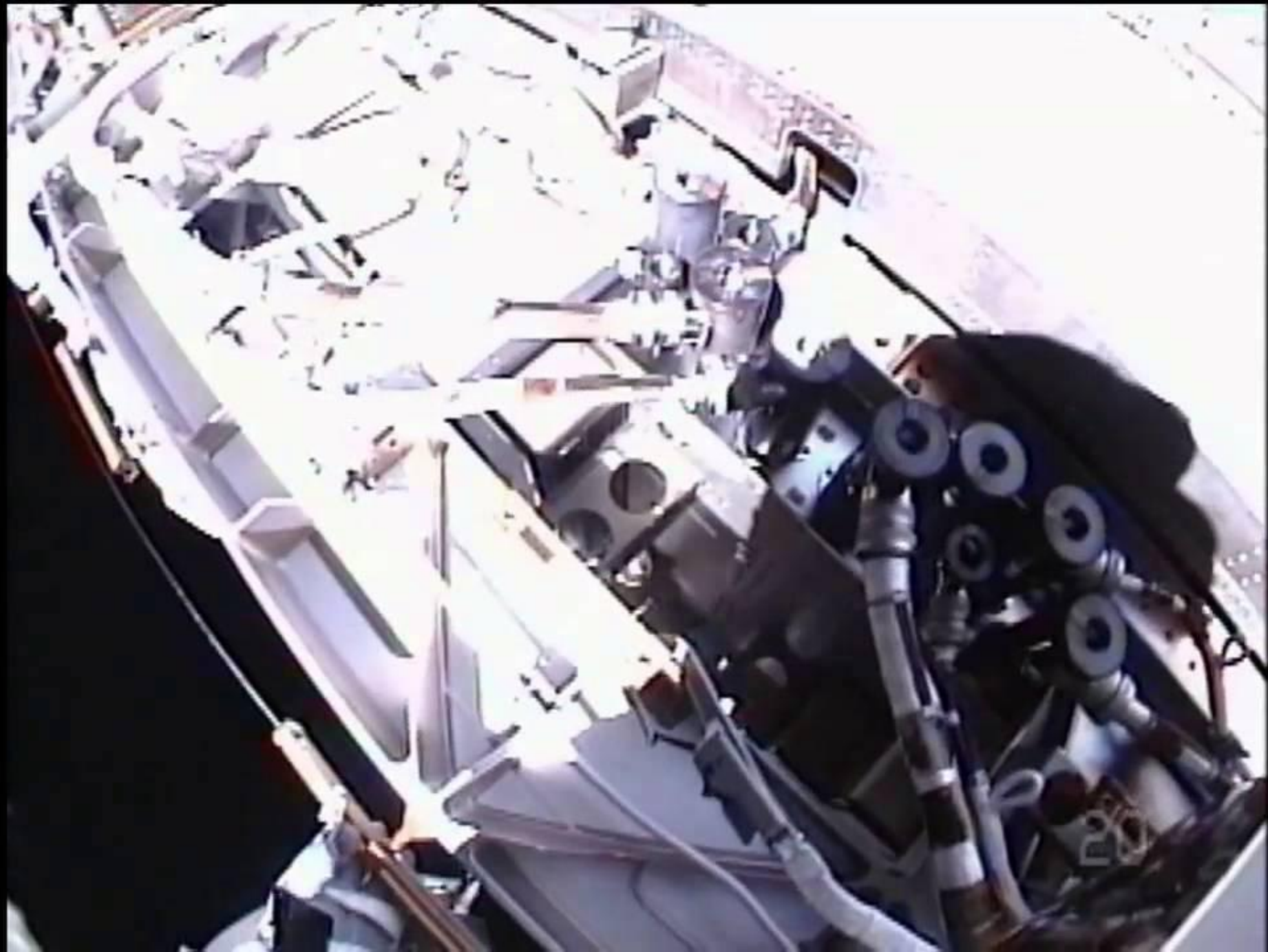

1
00:00:23,840 --> 00:00:31,580
hey

2
00:00:39,990 --> 00:00:37,290
todays space walk began at 729 central

3
00:00:44,270 --> 00:00:40,000
time this morning as crew members put

4
00:00:46,860 --> 00:00:44,280
their suits on to internal battery power

5
00:00:51,530 --> 00:00:46,870
Sonny Williams the first out the hatch

6
00:00:55,439 --> 00:00:51,540
at seven thirty six and Aki hoshide a

7
00:00:59,420 --> 00:00:55,449
expected to make his exit from the space

8
00:01:08,330 --> 00:01:05,479
I spy some jumpers you have reached the

9
00:01:10,550 --> 00:01:08,340
right place congratulations a sunny

10
00:01:12,770 --> 00:01:10,560
there is a sharp edge hazard on the

11
00:01:14,900 --> 00:01:12,780
outboard mt rail we showed you pictures

12
00:01:18,740 --> 00:01:14,910
before that said that attachment lug and

13
00:01:21,980 --> 00:01:18,750

it's near an REO 5333 and now that

14
00:01:24,320 --> 00:01:21,990
you're at the jumpers we give us a brief

15
00:01:26,000 --> 00:01:24,330
visual inspection and commentary brief

16
00:01:28,880 --> 00:01:26,010
is good and notify us if there's

17
00:01:34,400 --> 00:01:28,890
anything that jumps out as you to you as

18
00:01:37,880 --> 00:01:34,410
anomalous and now a good view of a sunny

19
00:01:40,040 --> 00:01:37,890
Williams out on the p6 truss in between

20
00:01:43,639 --> 00:01:40,050
the two solar array wings that are on

21
00:01:52,950 --> 00:01:43,649
the p4 and the ones beyond the two solar

22
00:01:58,560 --> 00:01:55,440
camera on the starboard side of the

23
00:02:01,140 --> 00:01:58,570
truss now up panting back over looking

24
00:02:04,620 --> 00:02:01,150
in bored and beyond the body of the

25
00:02:07,260 --> 00:02:04,630
space station you'll see Toshi day

26
00:02:10,889 --> 00:02:07,270
translating out on the port side of the

27
00:02:12,510 --> 00:02:10,899
trust no it's I think we had it between

28
00:02:15,360 --> 00:02:12,520
those two handrails but whatever works

29
00:02:19,740 --> 00:02:15,370
for you for the work site sunny roll it

30
00:02:22,610 --> 00:02:19,750
forward of it loser spit a little sunny

31
00:02:26,550 --> 00:02:22,620
williams and aki hoshide a work to

32
00:02:30,270 --> 00:02:26,560
install the spool positioning device on

33
00:02:31,979 --> 00:02:30,280
the m9 jumper once this particular task

34
00:02:34,620 --> 00:02:31,989
is completed both of the crew members

35
00:02:37,740 --> 00:02:34,630
will leave the jumper reconfiguration

36
00:02:41,490 --> 00:02:37,750
temporarily and move on to the fluid

37
00:02:43,770 --> 00:02:41,500
quick disconnect coupling d mating the

38
00:02:53,030 --> 00:02:43,780

task which will cut off the ammonia flow

39
00:02:58,140 --> 00:02:56,790
that's right PGT goes back to aki sunny

40
00:03:00,569 --> 00:02:58,150
you're going to remove the cover

41
00:03:09,720 --> 00:03:00,579
carefully and restrain it on the nadir

42
00:03:12,900 --> 00:03:09,730
side with a ret to hanro of 5340 wow the

43
00:03:21,330 --> 00:03:12,910
spirit is has feathers oh yes there is a

44
00:03:28,640 --> 00:03:21,340
tether on the on the later side like

45
00:03:36,330 --> 00:03:33,030
okay guys we are so back with you and we

46
00:03:38,970 --> 00:03:36,340
saw that you were on both on both h18

47
00:03:40,680 --> 00:03:38,980
and it would be seven turns only with

48
00:03:43,530 --> 00:03:40,690
all the pre reef actions and we'll have

49
00:03:45,510 --> 00:03:43,540
a after you do those seven turns will be

50
00:03:50,030 --> 00:03:45,520
waiting for one minute with a timer down

51
00:03:57,930 --> 00:03:56,310
alpha seven blocks counterclockwise that

52
00:04:02,790 --> 00:03:57,940
is correct alpha seven counterclockwise

53
00:04:20,110 --> 00:04:02,800
17 turns only you have a go straight

54
00:04:28,000 --> 00:04:24,520
hmmm pistol grip tool is a in motion 2

55
00:04:29,620 --> 00:04:28,010
turns completed out of the seven three

56
00:04:41,760 --> 00:04:29,630
turns of the seven that it will take to

57
00:04:41,770 --> 00:04:49,839
ammonia little bit sick

58
00:04:49,849 --> 00:05:01,919
seven stopped for some flakes but focus

59
00:05:10,869 --> 00:05:07,989
so I'm here at this truck 9.2 copy seven

60
00:05:14,230 --> 00:05:10,879
turns and 9.2 on the torque and we copy

61
00:05:21,269 --> 00:05:14,240
a few maybe three small ammonia flakes

62
00:05:28,540 --> 00:05:24,059
at this point the crew members have

63
00:05:31,089 --> 00:05:28,550

successfully d mated the PBRs fluid

64
00:05:34,989 --> 00:05:31,099
quick disconnect coupling to shut down

65
00:05:37,509 --> 00:05:34,999
the flow of ammonia from the to be a

66
00:05:40,709 --> 00:05:37,519
thermal control system through that PBR

67
00:05:42,369 --> 00:05:40,719
good job guys this is one of our major

68
00:05:45,850 --> 00:05:42,379
accomplishments that we wanted to get

69
00:05:48,309 --> 00:05:45,860
done today so good work we're going to

70
00:05:51,579 --> 00:05:48,319
get glove checks from you guys and then

71
00:05:55,329 --> 00:05:51,589
we will sake you can attempt stow your

72
00:05:57,069 --> 00:05:55,339
hand the PGT on hand rail 5334 and you

73
00:05:58,389 --> 00:05:57,079
both give us a glove check and while

74
00:05:59,920 --> 00:05:58,399
you're doing that big picture sunny

75
00:06:02,290 --> 00:05:59,930
you're going to go back to EAS jumpers

76
00:06:09,509 --> 00:06:02,300
and Aki son we're going to have you go

77
00:06:09,519 --> 00:06:17,020
just get it up

78
00:06:24,770 --> 00:06:22,850
okay down in that lower portion of this

79
00:06:27,920 --> 00:06:24,780
view from Williams helmet camera she's

80
00:06:31,850 --> 00:06:27,930
attaching this quick disconnect tool to

81
00:06:49,040 --> 00:06:31,860
a sister in removing the cutie and the

82
00:06:52,280 --> 00:06:49,050
extender from the m9 socket okay it's

83
00:06:54,080 --> 00:06:52,290
really alright we see that good job on

84
00:06:56,450 --> 00:06:54,090
the tools and thanks for the suggestions

85
00:06:59,300 --> 00:06:56,460
guys you're really making this work

86
00:07:02,390 --> 00:06:59,310
great check that the forward white band

87
00:07:11,510 --> 00:07:02,400
not visible sunny after you give aki the

88
00:07:14,360 --> 00:07:11,520

horseshoe Beck multiple up oh ho CD has

89
00:07:17,840 --> 00:07:14,370
been working nearby where Sonny Williams

90
00:07:20,780 --> 00:07:17,850
is working he is pulled a thermal shroud

91
00:07:24,050 --> 00:07:20,790
back off of the ticker the trailing

92
00:07:26,450 --> 00:07:24,060
thermal control radiator and is in the

93
00:07:30,020 --> 00:07:26,460
process of securing that now on the

94
00:07:32,300 --> 00:07:30,030
inboard side of the ticker making sure

95
00:07:35,320 --> 00:07:32,310
that it's out of the way for that

96
00:07:38,920 --> 00:07:35,330
radiator to be deployed

97
00:07:43,370 --> 00:07:38,930
the EPA team here in Houston has been

98
00:07:46,220 --> 00:07:43,380
looking at the issue with the SPD

99
00:07:49,150 --> 00:07:46,230
attachments since Williams had the first

100
00:07:53,300 --> 00:07:49,160
difficulty with it a couple of hours ago

101
00:07:56,650 --> 00:07:53,310
they developed this other plan

102
00:08:00,890 --> 00:07:56,660
essentially to wire tie it in place and

103
00:08:03,440 --> 00:08:00,900
brought a mock-up of that hardware here

104
00:08:07,010 --> 00:08:03,450
into the control room which you see now

105
00:08:09,020 --> 00:08:07,020
on the EBA console so that they could

106
00:08:11,690 --> 00:08:09,030
demonstrate it for Mike Fincke an

107
00:08:14,960 --> 00:08:11,700
experienced spacewalker who's worked in

108
00:08:17,390 --> 00:08:14,970
this area he and astronaut drew Feustel

109
00:08:19,130 --> 00:08:17,400
actually were the crew mates who

110
00:08:21,080 --> 00:08:19,140
developed the procedures for todays

111
00:08:23,120 --> 00:08:21,090
space walk in the neutral buoyancy

112
00:08:25,670 --> 00:08:23,130
laboratory over the course of the last

113
00:08:30,050 --> 00:08:25,680

few weeks they were able to demonstrate

114
00:08:33,700 --> 00:08:30,060
it for him so that he could then relay

115
00:08:36,140 --> 00:08:33,710
it to Sonny Williams with the as an

116
00:08:43,550 --> 00:08:36,150
experienced space Walker with experience

117
00:08:45,290 --> 00:08:43,560
at that same location alright so achey

118
00:08:47,330 --> 00:08:45,300
from your side it looks like we got to

119
00:08:49,700 --> 00:08:47,340
go from you that everything is clear and

120
00:08:51,860 --> 00:08:49,710
ready to go then once we hear the same

121
00:08:53,810 --> 00:08:51,870
from is funny we're going to give you a

122
00:08:56,510 --> 00:08:53,820
brief and for the ground control team

123
00:09:01,460 --> 00:08:56,520
here and then we're almost to to the pay

124
00:09:03,350 --> 00:09:01,470
time here akiyoshi day is now

125
00:09:07,910 --> 00:09:03,360
maneuvering to get himself into a better

126
00:09:10,700 --> 00:09:07,920
position to provide Mission Control with

127
00:09:12,920 --> 00:09:10,710
the view of the deployment he and Sonny

128
00:09:16,100 --> 00:09:12,930
Williams both positions to make sure

129
00:09:18,500 --> 00:09:16,110
that they can see around all the sides

130
00:09:20,950 --> 00:09:18,510
of the radiator make sure that there's

131
00:09:27,380 --> 00:09:20,960
nothing that will move in the way to

132
00:09:32,050 --> 00:09:27,390
interfere with the deployment alright I

133
00:09:36,920 --> 00:09:32,060
hear two goes from the EV crew flight

134
00:09:39,560 --> 00:09:36,930
stand by for deploy flight director Mike

135
00:09:42,200 --> 00:09:39,570
Lammers is given the Spartan officer

136
00:09:44,670 --> 00:09:42,210
Anthony varaha the go to deploy the

137
00:09:56,200 --> 00:09:47,320
and guys were sending the last command

138
00:09:58,630 --> 00:09:56,210

as we speak ocean ice cream ocean copy

139
00:10:11,560 --> 00:09:58,640
motion these two sides oakley on my

140
00:10:13,390 --> 00:10:11,570
pages Oh 1234 central time the trailing

141
00:10:15,910 --> 00:10:13,400
thermal control radiator on the

142
00:10:22,110 --> 00:10:15,920
International Space Station's p6 truss

143
00:10:24,780 --> 00:10:22,120
is deploying the to be power channels

144
00:10:27,640 --> 00:10:24,790
thermal control system had already been

145
00:10:31,810 --> 00:10:27,650
put back into operation and was

146
00:10:34,750 --> 00:10:31,820
operating according to Hoyle this

147
00:10:39,310 --> 00:10:34,760
deployment take roughly 10 minutes to

148
00:10:43,180 --> 00:10:39,320
complete and this radiator which was

149
00:10:46,600 --> 00:10:43,190
used for the first seven years that it

150
00:10:49,390 --> 00:10:46,610
was on orbit will be operating again

151
00:10:52,150 --> 00:10:49,400
this view back in the center portion of

152
00:10:56,950 --> 00:10:52,160
the trust the ticker as it deploys you

153
00:10:58,660 --> 00:10:56,960
can be seen on the right side the two

154
00:11:01,630 --> 00:10:58,670
radiators that we see deployed on the

155
00:11:03,760 --> 00:11:01,640
left side down here also you guys said

156
00:11:05,980 --> 00:11:03,770
just stay in position and help monitor

157
00:11:07,780 --> 00:11:05,990
and when we're all set and done and

158
00:11:09,460 --> 00:11:07,790
everything's good will will start taking

159
00:11:11,170 --> 00:11:09,470
pictures and have more words for you but

160
00:11:16,510 --> 00:11:11,180
in the meantime we're basking in the

161
00:11:19,270 --> 00:11:16,520
moment those two radiators that you see

162
00:11:24,190 --> 00:11:19,280
on the left one closest to the camera is

163
00:11:26,640 --> 00:11:24,200

the PVR on the p4 truss element and the

164
00:11:31,330 --> 00:11:26,650
one furthest promise is the PVR on the

165
00:11:34,750 --> 00:11:31,340
p6 that's the radiator that the crew

166
00:11:38,050 --> 00:11:34,760
members uh took out of the to be power

167
00:11:39,790 --> 00:11:38,060
channel loop during today's spacewalk it

168
00:11:42,100 --> 00:11:39,800
is still deployed because it is still

169
00:11:45,040 --> 00:11:42,110
working providing cooling for the

170
00:11:47,110 --> 00:11:45,050
systems on the 4b power Channel that's

171
00:11:49,150 --> 00:11:47,120
the other solar array wing and

172
00:11:51,970 --> 00:11:49,160
associated equipment that are also

173
00:11:54,340 --> 00:11:51,980
resident on the p6 truss on the opposite

174
00:11:55,750 --> 00:11:54,350
side of the p6 truss from the to be

175
00:11:59,800 --> 00:11:55,760
power Channel

176
00:12:02,320 --> 00:11:59,810
the ticker the trailing thermal control

177
00:12:07,030 --> 00:12:02,330
radiator now being deployed in the right

178
00:12:11,890 --> 00:12:07,040
side of our current view it will service

179
00:12:16,180 --> 00:12:11,900
the to be power channel the point of

180
00:12:19,180 --> 00:12:16,190
today's a spacewalk to take that PVR out

181
00:12:21,910 --> 00:12:19,190
of the loop to isolated from the system

182
00:12:23,830 --> 00:12:21,920
is so that in the weeks situational

183
00:12:30,940 --> 00:12:23,840
awareness we're about halfway there and

184
00:12:33,100 --> 00:12:30,950
it's looking good so far great over the

185
00:12:34,840 --> 00:12:33,110
coming weeks perhaps months Mission

186
00:12:38,890 --> 00:12:34,850
Control in Houston will now be able to

187
00:12:41,260 --> 00:12:38,900
monitor the leak rate from the 2 b's and

188
00:12:43,540 --> 00:12:41,270

thermal control system and see whether

189
00:12:46,000 --> 00:12:43,550
or not it has changed from the leak rate

190
00:12:50,200 --> 00:12:46,010
that has been observed since was first

191
00:12:53,310 --> 00:12:50,210
observed back in 2007 june of this year

192
00:12:56,050 --> 00:12:53,320
the leak rate accelerated quite a bit

193
00:12:58,510 --> 00:12:56,060
we're looking to find out whether or not

194
00:13:00,340 --> 00:12:58,520
it's changed if for example the leak is

195
00:13:02,140 --> 00:13:00,350
stopped and would indicate that the

196
00:13:06,460 --> 00:13:02,150
source of the leak was in the radiator

197
00:13:09,790 --> 00:13:06,470
and we can proceed accordingly if the

198
00:13:12,820 --> 00:13:09,800
leak rate is unchanged they would

199
00:13:14,950 --> 00:13:12,830
indicate that the radiator was not the

200
00:13:16,300 --> 00:13:14,960
source of any of the leak and again to

201
00:13:18,160 --> 00:13:16,310
proceed accordingly with further

202
00:13:21,040 --> 00:13:18,170
troubleshooting steps to identify the

203
00:13:22,990 --> 00:13:21,050
source of the leak but with the

204
00:13:26,020 --> 00:13:23,000
deployment of the ticker as we're

205
00:13:28,720 --> 00:13:26,030
watching now and the reconfiguration of

206
00:13:33,030 --> 00:13:28,730
the jumpers as was the the remaining

207
00:13:35,950 --> 00:13:33,040
tasks of today's spacewalk the 2 b's a

208
00:13:37,840 --> 00:13:35,960
photovoltaic thermal control system will

209
00:13:40,330 --> 00:13:37,850
continue to operate as it normally does

210
00:13:44,310 --> 00:13:40,340
and provide cooling to all of the

211
00:13:49,630 --> 00:13:44,320
components of the to be power channel

212
00:13:51,490 --> 00:13:49,640
while the team here in houston continues

213
00:13:55,330 --> 00:13:51,500

its work to find the source of the

214
00:13:56,980 --> 00:13:55,340
ammonia leak and we're over the central

215
00:13:58,690 --> 00:13:56,990
part of north america right near the

216
00:14:04,290 --> 00:13:58,700
Canadian border right now you guys are

217
00:14:07,680 --> 00:14:04,300
lucky to have that view holy beautiful

218
00:14:09,540 --> 00:14:07,690
and Sonny anaki our heartfelt

219
00:14:11,850 --> 00:14:09,550
congratulations to you and the entire

220
00:14:13,950 --> 00:14:11,860
team we've accomplished just about

221
00:14:16,620 --> 00:14:13,960
everything we set out to do today it's

222
00:14:18,270 --> 00:14:16,630
about five minutes and excuse me five

223
00:14:19,440 --> 00:14:18,280
hours and 12 minutes it seems like five

224
00:14:21,870 --> 00:14:19,450
minutes but five hours and 12 minutes

225
00:14:25,790 --> 00:14:21,880
into the EV a we're going to have you

226
00:14:29,610 --> 00:14:25,800
guys go out and work the missing speed

227
00:14:31,410 --> 00:14:29,620
problem and we'll go solve that we have

228
00:14:32,730 --> 00:14:31,420
a few things for you before we do that

229
00:14:36,960 --> 00:14:32,740
but that's the big picture do you have

230
00:14:38,580 --> 00:14:36,970
any questions sounds good and a big huge

231
00:14:42,090 --> 00:14:38,590
congratulations you guys on the ground

232
00:14:46,920 --> 00:14:42,100
for putting this together nice to see it