
Kirk Shireman
ISS DEPUTY PROGRAM DIRECTOR

1
00:00:06,980 --> 00:00:03,590
good afternoon and welcome to our

2
00:00:08,360 --> 00:00:06,990
expedition 24 spacewalk briefing russian

3
00:00:09,770 --> 00:00:08,370
flight engineers theatre your chicken

4
00:00:12,320 --> 00:00:09,780
and mikhail kornienko are going to be

5
00:00:14,360 --> 00:00:12,330
going outside the station at 1045 p.m.

6
00:00:15,680 --> 00:00:14,370
on monday night and tell you a little

7
00:00:17,500 --> 00:00:15,690
bit about what they'll be doing out

8
00:00:19,640 --> 00:00:17,510
there we have the expedition 24

9
00:00:22,609 --> 00:00:19,650
spacewalk flight director Chris Edelen

10
00:00:25,040 --> 00:00:22,619
and the International Space Station

11
00:00:26,120 --> 00:00:25,050
deputy program manager Kirk Cameron will

12
00:00:27,820 --> 00:00:26,130
let them start with some opening

13
00:00:30,080 --> 00:00:27,830

statements and then we'll take questions

14
00:00:33,260 --> 00:00:30,090
okay thank you brandy and good afternoon

15
00:00:36,170 --> 00:00:33,270
everybody Russian TV a 25 is scheduled

16
00:00:39,319 --> 00:00:36,180
for this coming Monday July 26 beginning

17
00:00:41,660 --> 00:00:39,329
at 1045 p.m. central time it's planned

18
00:00:43,280 --> 00:00:41,670
to be a six-hour spacewalk and during

19
00:00:46,310 --> 00:00:43,290
which time the crew will replace a

20
00:00:49,549 --> 00:00:46,320
docking camera on the Zvezda module as

21
00:00:52,310 --> 00:00:49,559
well as route data cables to support

22
00:00:54,650 --> 00:00:52,320
activation of the new raspberry search

23
00:00:58,520 --> 00:00:54,660
module we can go to graphic one that

24
00:01:01,220 --> 00:00:58,530
shows the EV kru EV one is cosmonaut

25
00:01:04,100 --> 00:01:01,230
fyodor yurchikhin making his fourth

26
00:01:06,590 --> 00:01:04,110
spacewalk and EV two will be mikhail

27
00:01:09,109 --> 00:01:06,600
kornienko making his first spacewalk and

28
00:01:11,899 --> 00:01:09,119
both will have blue stripes on their

29
00:01:15,200 --> 00:01:11,909
Orlan spacesuits now if we go too

30
00:01:17,030 --> 00:01:15,210
graphic to this shows a side view of the

31
00:01:19,429 --> 00:01:17,040
Russian segment of the space station

32
00:01:21,830 --> 00:01:19,439
with labels for the modules that will be

33
00:01:23,780 --> 00:01:21,840
talking about today the spacewalk will

34
00:01:25,429 --> 00:01:23,790
originate from the piers docking

35
00:01:28,640 --> 00:01:25,439
compartment airlock which is in the

36
00:01:32,270 --> 00:01:28,650
center portion of your screen that will

37
00:01:34,399 --> 00:01:32,280
require that will isolate the 20 tests

38
00:01:36,319 --> 00:01:34,409

or used vehicle from the rest of the

39
00:01:38,390 --> 00:01:36,329
station due to the hatch configuration

40
00:01:40,609 --> 00:01:38,400
used with this airlock so that will

41
00:01:42,830 --> 00:01:40,619
require station commander alexander

42
00:01:45,319 --> 00:01:42,840
skorts cough and flight engineer Tracy

43
00:01:47,660 --> 00:01:45,329
Caldwell Dyson to remain in the post

44
00:01:50,420 --> 00:01:47,670
research module for the duration of the

45
00:01:52,399 --> 00:01:50,430
EV a so that they have assured access to

46
00:01:53,990 --> 00:01:52,409
their Soyuz this is just a standard

47
00:01:56,060 --> 00:01:54,000
safety precaution that we take for Olly

48
00:01:57,950 --> 00:01:56,070
va's to assure that the crew has

49
00:02:00,620 --> 00:01:57,960
immediate access to their Soyuz vehicle

50
00:02:02,719 --> 00:02:00,630
if required the remaining crew members

51
00:02:04,730 --> 00:02:02,729
astronauts Doug Wheelock and shannon

52
00:02:07,130 --> 00:02:04,740
walker will have free access to the

53
00:02:11,119 --> 00:02:07,140
entire u.s. segment as well as the zarya

54
00:02:13,830 --> 00:02:11,129
module and their soyuz 22 23 us vehicle

55
00:02:17,759 --> 00:02:13,840
which is located at the docking port of

56
00:02:20,009 --> 00:02:17,769
roseville now for more details on the

57
00:02:23,580 --> 00:02:20,019
overall EV a objectives we can go to

58
00:02:26,670 --> 00:02:23,590
slide 3 please first the crew is going

59
00:02:29,280 --> 00:02:26,680
to replace a degraded video camera at

60
00:02:30,990 --> 00:02:29,290
the aft end of the des des module and

61
00:02:32,970 --> 00:02:31,000
replace it with a new one that was

62
00:02:36,180 --> 00:02:32,980
recently delivered to the station this

63
00:02:40,500 --> 00:02:36,190

camera supports dockings of the European

64
00:02:42,539 --> 00:02:40,510
automated transfer vehicle or ATV the

65
00:02:44,729 --> 00:02:42,549
ATV is an unmanned spacecraft that

66
00:02:46,410 --> 00:02:44,739
brings supplies to the station and the

67
00:02:48,660 --> 00:02:46,420
video camera is used to monitor the

68
00:02:50,759 --> 00:02:48,670
approach as it comes in and docks with

69
00:02:53,490 --> 00:02:50,769
the on the at the end of the studs new

70
00:02:56,640 --> 00:02:53,500
module so the video camera currently on

71
00:02:58,619 --> 00:02:56,650
orbit has numerous bad pixels resulting

72
00:03:00,600 --> 00:02:58,629
in degraded picture quality so the new

73
00:03:03,900 --> 00:03:00,610
camera is expected to restore the system

74
00:03:07,080 --> 00:03:03,910
to its full functionality in time for

75
00:03:09,080 --> 00:03:07,090
the next ATV mission which is a TV 2 is

76
00:03:11,580 --> 00:03:09,090
scheduled for December of this year

77
00:03:13,830 --> 00:03:11,590
after a ground check out of the new

78
00:03:15,869 --> 00:03:13,840
camera the old camera will be jettisoned

79
00:03:18,150 --> 00:03:15,879
it will not be brought back inside the

80
00:03:19,680 --> 00:03:18,160
station due to concerns that it's the

81
00:03:21,960 --> 00:03:19,690
insulation around the camera has

82
00:03:24,210 --> 00:03:21,970
degraded in the space environment and

83
00:03:26,580 --> 00:03:24,220
could result in fiberglass particles

84
00:03:28,410 --> 00:03:26,590
being shed inside the station resulting

85
00:03:30,390 --> 00:03:28,420
in a breathing heathered hazard for the

86
00:03:34,559 --> 00:03:30,400
crew so at the end of the EV a we will

87
00:03:37,319 --> 00:03:34,569
jettison the old atv video camera the

88
00:03:39,930 --> 00:03:37,329

other big objectives for the e VAR to to

89
00:03:42,509 --> 00:03:39,940
outfit the new res vet research module

90
00:03:44,370 --> 00:03:42,519
which was delivered to the station by

91
00:03:46,979 --> 00:03:44,380
the space shuttle Atlantis back in May

92
00:03:49,890 --> 00:03:46,989
of this year first a cable bundle will

93
00:03:54,300 --> 00:03:49,900
be run from these vezde and zaria

94
00:03:56,819 --> 00:03:54,310
modules to connect the Raspberry Russian

95
00:04:00,000 --> 00:03:56,829
commanded data handling computers then a

96
00:04:03,120 --> 00:04:00,010
second set of cables will be run from

97
00:04:05,159 --> 00:04:03,130
res vet to zaria to provide full

98
00:04:07,979 --> 00:04:05,169
functionality of the cores docking

99
00:04:11,039 --> 00:04:07,989
system to allow automated vehicle

100
00:04:13,530 --> 00:04:11,049
dockings of progress and soyuz

101
00:04:17,219 --> 00:04:13,540
spacecraft to the docking port at the

102
00:04:19,830 --> 00:04:17,229
bottom of the raspberry now we're going

103
00:04:22,050 --> 00:04:19,840
to go over the EV a timeline in greater

104
00:04:24,360 --> 00:04:22,060
detail and for this will have an

105
00:04:26,719 --> 00:04:24,370
animation we can go ahead and roll the

106
00:04:29,580 --> 00:04:26,729
animation

107
00:04:31,560 --> 00:04:29,590
the spacewalkers are going to emerge

108
00:04:34,290 --> 00:04:31,570
from the piers docking compartment

109
00:04:36,810 --> 00:04:34,300
airlock which is shown there on your

110
00:04:39,330 --> 00:04:36,820
screen and the lower portion they will

111
00:04:41,210 --> 00:04:39,340
bring with them to cable reels

112
00:04:43,710 --> 00:04:41,220
containing the commanded data handling

113
00:04:47,879 --> 00:04:43,720

cables as well as the cores cables

114
00:04:50,279 --> 00:04:47,889
they'll also bring the new atv video

115
00:04:53,159 --> 00:04:50,289
camera with them they will proceed aft

116
00:04:57,480 --> 00:04:53,169
along this vezde module towards the very

117
00:04:59,760 --> 00:04:57,490
back end of the station when they get

118
00:05:04,170 --> 00:04:59,770
there they'll translate along the ring

119
00:05:08,189 --> 00:05:04,180
handrails to the a TV camera work site

120
00:05:10,260 --> 00:05:08,199
which is adjacent to the 38 p progress

121
00:05:13,350 --> 00:05:10,270
vehicle shown docked on the aft end of

122
00:05:15,900 --> 00:05:13,360
the module so the blinking square that

123
00:05:18,120 --> 00:05:15,910
you see there is the a TV camera they

124
00:05:20,159 --> 00:05:18,130
will use a ratchet wrench to remove the

125
00:05:23,070 --> 00:05:20,169
connector they'll take out the old

126
00:05:25,320 --> 00:05:23,080
camera put the new camera in exactly the

127
00:05:27,930 --> 00:05:25,330
same location and made up the electrical

128
00:05:30,180 --> 00:05:27,940
connectors and then they'll take the old

129
00:05:33,240 --> 00:05:30,190
camera and they'll translate back along

130
00:05:35,390 --> 00:05:33,250
as vezde to the to the airlock now while

131
00:05:38,310 --> 00:05:35,400
they're doing this ground controllers in

132
00:05:40,320 --> 00:05:38,320
Moscow will be performing system checks

133
00:05:43,050 --> 00:05:40,330
of the new camera to make sure that it's

134
00:05:50,520 --> 00:05:43,060
functional before we jettison the old

135
00:05:52,409 --> 00:05:50,530
camera so when the crew gets back to the

136
00:05:55,820 --> 00:05:52,419
piers docking compartment they will

137
00:05:57,950 --> 00:05:55,830
tether the old camera to an EV a ladder

138
00:06:00,779 --> 00:05:57,960

leaving it till the end of the EV a

139
00:06:04,080 --> 00:06:00,789
they'll retrieve their cable bundle

140
00:06:07,200 --> 00:06:04,090
reels and proceed up to the ball portion

141
00:06:09,510 --> 00:06:07,210
of Zvezda or pakka oh and they will

142
00:06:12,240 --> 00:06:09,520
begin mating for electrical connectors

143
00:06:18,749 --> 00:06:12,250
of the command and data handling set of

144
00:06:21,210 --> 00:06:18,759
cables and this will be about an hour

145
00:06:24,420 --> 00:06:21,220
and 45 minutes into the EDA when they

146
00:06:26,490 --> 00:06:24,430
get to this point so again they make the

147
00:06:30,300 --> 00:06:26,500
connections and then they will also

148
00:06:33,779 --> 00:06:30,310
secure the cables with wire ties along

149
00:06:38,209 --> 00:06:33,789
handrails and then they will proceed to

150
00:06:40,380 --> 00:06:38,219
the top side of the zarya module and

151
00:06:42,030 --> 00:06:40,390
make their way towards the

152
00:06:44,460 --> 00:06:42,040
side of that module towards the u.s.

153
00:06:48,360 --> 00:06:44,470
segment stringing along the command and

154
00:06:50,070 --> 00:06:48,370
data handling cables as they go the

155
00:06:53,100 --> 00:06:50,080
other crew member will also bring the

156
00:06:58,320 --> 00:06:53,110
Coors cable reel with them which will be

157
00:07:00,720 --> 00:06:58,330
used a little bit later in the EV a so

158
00:07:02,540 --> 00:07:00,730
when they get to the front end of zaria

159
00:07:05,610 --> 00:07:02,550
they'll come down the ball or gah

160
00:07:07,770 --> 00:07:05,620
portion of ZAR you they will set up

161
00:07:13,650 --> 00:07:07,780
their work site what their cable reel

162
00:07:15,960 --> 00:07:13,660
and they will stall ties for the to hold

163
00:07:18,930 --> 00:07:15,970

the cables in place and then make the

164
00:07:21,180 --> 00:07:18,940
electrical connectors on the ra's vet

165
00:07:22,710 --> 00:07:21,190
module which you see towards the lower

166
00:07:25,560 --> 00:07:22,720
part of your screen that's the new

167
00:07:27,600 --> 00:07:25,570
module so that will complete the command

168
00:07:30,630 --> 00:07:27,610
data handling portion of the cable

169
00:07:33,450 --> 00:07:30,640
routing the crew will also close the

170
00:07:36,510 --> 00:07:33,460
cover on the Raza docking camera and

171
00:07:39,390 --> 00:07:36,520
remove three bolts as a get ahead for a

172
00:07:41,160 --> 00:07:39,400
future EV a task then the crew will come

173
00:07:44,660 --> 00:07:41,170
around to the port side of the station

174
00:07:48,630 --> 00:07:44,670
and they will proceed to make the coors

175
00:07:51,360 --> 00:07:48,640
cable to connect the cores passive

176
00:07:54,480 --> 00:07:51,370
antennas on Raz bet to the station

177
00:07:56,850 --> 00:07:54,490
computers again to support automated

178
00:08:01,770 --> 00:07:56,860
rendezvous and docking on the new

179
00:08:04,110 --> 00:08:01,780
docking port on Raz bet they'll make

180
00:08:06,770 --> 00:08:04,120
their way back along as our you bringing

181
00:08:09,510 --> 00:08:06,780
with them the tomb empty cable reels and

182
00:08:11,580 --> 00:08:09,520
return to the airlock and this portion

183
00:08:17,730 --> 00:08:11,590
of the EBA is expected to take about

184
00:08:20,340 --> 00:08:17,740
three and a half hours total so once

185
00:08:21,900 --> 00:08:20,350
they're back at the airlock assuming

186
00:08:24,270 --> 00:08:21,910
that the check out of the new camera is

187
00:08:27,900 --> 00:08:24,280
satisfactory the old camera will be

188
00:08:29,730 --> 00:08:27,910

untethered the crew will use the Strela

189
00:08:31,770 --> 00:08:29,740
crane foot restraint secure themselves

190
00:08:33,500 --> 00:08:31,780
and then they will jettison the old

191
00:08:36,240 --> 00:08:33,510
camera in a retrograde direction

192
00:08:38,670 --> 00:08:36,250
opposite of the direction of travel of

193
00:08:40,530 --> 00:08:38,680
the station and the expected release

194
00:08:42,990 --> 00:08:40,540
velocity is about half a meter per

195
00:08:44,880 --> 00:08:43,000
second and with that the camera will

196
00:08:47,340 --> 00:08:44,890
phase out in front of the station and

197
00:08:50,070 --> 00:08:47,350
since it's drag deceleration is greater

198
00:08:52,320 --> 00:08:50,080
than the overall station it will slowly

199
00:08:52,930 --> 00:08:52,330
lose altitude and continue phasing in

200
00:08:56,290 --> 00:08:52,940
front stage

201
00:08:58,270 --> 00:08:56,300
and after about 120 days it is expected

202
00:09:02,590 --> 00:08:58,280
to re-enter the Earth's atmosphere and

203
00:09:04,240 --> 00:09:02,600
burn up so after after jettison of the

204
00:09:06,280 --> 00:09:04,250
camera the two space walkers will

205
00:09:08,200 --> 00:09:06,290
ingress the airlock and begin

206
00:09:11,500 --> 00:09:08,210
repressurization then they'll open

207
00:09:13,930 --> 00:09:11,510
hatches doff their suits and begin the

208
00:09:16,540 --> 00:09:13,940
post evi activities and now just for a

209
00:09:18,090 --> 00:09:16,550
few general notes one new capability

210
00:09:20,470 --> 00:09:18,100
that we're going to use for this eve EA

211
00:09:22,600 --> 00:09:20,480
for the first time is the Orleans

212
00:09:25,420 --> 00:09:22,610
spacesuit to limit or e measurement unit

213
00:09:27,820 --> 00:09:25,430

or TMU this will provide detailed suit

214
00:09:30,130 --> 00:09:27,830
to limit or e to ground specialists in

215
00:09:33,460 --> 00:09:30,140
Mission Control Moscow by way of the

216
00:09:35,680 --> 00:09:33,470
u.s. us s band communication system on

217
00:09:37,540 --> 00:09:35,690
the station currently this type data is

218
00:09:40,000 --> 00:09:37,550
only available for short periods once

219
00:09:42,130 --> 00:09:40,010
every orbit about 10 minutes 10 or 15

220
00:09:44,260 --> 00:09:42,140
minutes out of every 90 minutes so this

221
00:09:46,330 --> 00:09:44,270
is a significant safety enhancement to

222
00:09:48,160 --> 00:09:46,340
provide greater visibility for ground

223
00:09:52,150 --> 00:09:48,170
controllers to monitor things such as

224
00:09:53,620 --> 00:09:52,160
suit pressure and oxygen remaining one

225
00:09:55,690 --> 00:09:53,630
other note this is a russian-led

226
00:09:57,310 --> 00:09:55,700
activity the spacewalk will be run by

227
00:10:00,310 --> 00:09:57,320
the Russian flight control team in

228
00:10:02,080 --> 00:10:00,320
Moscow the US team in Houston here will

229
00:10:04,750 --> 00:10:02,090
will do several things to support the

230
00:10:06,820 --> 00:10:04,760
spacewalk we're going to park our solar

231
00:10:09,880 --> 00:10:06,830
alpha rotary joints and our thermal

232
00:10:12,070 --> 00:10:09,890
radiator joints in order to allow us to

233
00:10:14,080 --> 00:10:12,080
handover attitude control to the

234
00:10:17,050 --> 00:10:14,090
progress thrusters for the airlock

235
00:10:18,850 --> 00:10:17,060
depressurization and after depress is

236
00:10:21,790 --> 00:10:18,860
complete we will hand back attitude

237
00:10:25,510 --> 00:10:21,800
control to the US side in order to use

238
00:10:27,850 --> 00:10:25,520

the non propulsive control moment gyros

239
00:10:30,580 --> 00:10:27,860
so that we don't use a propellant to

240
00:10:31,960 --> 00:10:30,590
maintain attitude during the EBA we're

241
00:10:34,660 --> 00:10:31,970
also going to power up an additional

242
00:10:36,940 --> 00:10:34,670
string of our s band radios on the

243
00:10:39,960 --> 00:10:36,950
station in order to provide redundant

244
00:10:43,300 --> 00:10:39,970
voice and telemetry for flight control

245
00:10:45,040 --> 00:10:43,310
and we'll be tracking the crew using us

246
00:10:47,079 --> 00:10:45,050
external video cameras mounted on the

247
00:10:49,510 --> 00:10:47,089
station trust however we expect to have

248
00:10:52,240 --> 00:10:49,520
pretty much limited views of the state

249
00:10:53,380 --> 00:10:52,250
of the spacewalkers due to the fact that

250
00:10:55,360 --> 00:10:53,390
they're going to be on the back side of

251
00:10:57,700 --> 00:10:55,370
the station and our cameras are towards

252
00:11:00,160 --> 00:10:57,710
the front side so limited views there

253
00:11:03,820 --> 00:11:00,170
and also the crew will not have helmet

254
00:11:06,100 --> 00:11:03,830
cam so for training the crew has been

255
00:11:06,700 --> 00:11:06,110
trained on the CVA prior to flight and

256
00:11:09,910 --> 00:11:06,710
the hydra lab

257
00:11:10,870 --> 00:11:09,920
facility at Star City in Russia this

258
00:11:12,730 --> 00:11:10,880
week they've been gathering the

259
00:11:15,160 --> 00:11:12,740
necessary tools and equipment for the

260
00:11:16,510 --> 00:11:15,170
for the EBA and reviewing procedures for

261
00:11:19,330 --> 00:11:16,520
the tasks that they're going to perform

262
00:11:21,010 --> 00:11:19,340
as well as their suit procedures and

263
00:11:23,410 --> 00:11:21,020

today they're setting up and sizing the

264
00:11:26,320 --> 00:11:23,420
suits tomorrow they will be performing a

265
00:11:28,660 --> 00:11:26,330
telemetry test of the new TMU and then

266
00:11:30,910 --> 00:11:28,670
Friday there will be a suited dry run to

267
00:11:32,980 --> 00:11:30,920
go through all the procedures all the

268
00:11:35,560 --> 00:11:32,990
way from depress the airlock through

269
00:11:39,550 --> 00:11:35,570
through the e VA itself and then back to

270
00:11:42,550 --> 00:11:39,560
regress suited dry run Friday Saturday

271
00:11:44,620 --> 00:11:42,560
and Sunday our crew days off and then

272
00:11:46,960 --> 00:11:44,630
Monday they'll be well-rested and

273
00:11:49,180 --> 00:11:46,970
they'll actually have a 12-hour sleep

274
00:11:52,480 --> 00:11:49,190
chef waking up about 2 p.m. central time

275
00:11:54,640 --> 00:11:52,490
to begin the EV a prep operations and

276
00:11:58,330 --> 00:11:54,650
that concludes the formal part of the

277
00:12:00,250 --> 00:11:58,340
brief okay we'll hear next from Kirk

278
00:12:01,840 --> 00:12:00,260
Charmin deputy program manager all right

279
00:12:02,920 --> 00:12:01,850
thanks good afternoon it's great to be

280
00:12:05,110 --> 00:12:02,930
here to talk to you about the

281
00:12:06,610 --> 00:12:05,120
International Space Station Chris did an

282
00:12:08,680 --> 00:12:06,620
outstanding job telling you about the

283
00:12:10,000 --> 00:12:08,690
the upcoming Russian dva so I'll tell

284
00:12:12,370 --> 00:12:10,010
you about a couple other things that are

285
00:12:15,460 --> 00:12:12,380
going on the ISS that have either

286
00:12:19,000 --> 00:12:15,470
occurred or are going to occur in the

287
00:12:22,540 --> 00:12:19,010
near future first we have the Russian

288
00:12:25,900 --> 00:12:22,550

TVA on the 26th going outside about 10

289
00:12:28,360 --> 00:12:25,910
45 p.m. local and we have the you se va

290
00:12:30,790 --> 00:12:28,370
coming up on august eight and we'll go

291
00:12:32,260 --> 00:12:30,800
outside about six a.m. local so and I

292
00:12:34,180 --> 00:12:32,270
know we'll have another briefing here I

293
00:12:36,610 --> 00:12:34,190
believe on august 3rd to talk to you

294
00:12:38,950 --> 00:12:36,620
more about the details there so as you

295
00:12:41,230 --> 00:12:38,960
know there's lots of activities it's not

296
00:12:42,460 --> 00:12:41,240
just the spacewalk itself that the hours

297
00:12:43,750 --> 00:12:42,470
that were outside there's actually a

298
00:12:46,960 --> 00:12:43,760
significant amount of preparation

299
00:12:49,210 --> 00:12:46,970
activity going on board on the Russian

300
00:12:50,680 --> 00:12:49,220
side and the US side in preparation for

301
00:12:53,380 --> 00:12:50,690
these evs and we'll talk to you more

302
00:12:55,060 --> 00:12:53,390
about that on the ground we have some

303
00:12:57,310 --> 00:12:55,070
significant activities going on as well

304
00:13:01,120 --> 00:12:57,320
in Florida we have the permanent

305
00:13:03,310 --> 00:13:01,130
multi-purpose module or pmm and that

306
00:13:04,720 --> 00:13:03,320
module is undergoing it's actually being

307
00:13:07,180 --> 00:13:04,730
loaded as we speak we're installing

308
00:13:11,280 --> 00:13:07,190
racks and cargo on the inside of that

309
00:13:13,090 --> 00:13:11,290
module as well as installing improved

310
00:13:14,710 --> 00:13:13,100
micrometeorite and orbital debris

311
00:13:16,870 --> 00:13:14,720
shields on the outside and that

312
00:13:19,850 --> 00:13:16,880
activities going very well and on

313
00:13:21,829 --> 00:13:19,860

schedule to support the launch this fall

314
00:13:24,889 --> 00:13:21,839
also on that flight we have an external

315
00:13:26,150 --> 00:13:24,899
logistics carrier and that external

316
00:13:28,340 --> 00:13:26,160
logistics carrier is going to have a

317
00:13:31,759 --> 00:13:28,350
large radiator or you in fact this

318
00:13:34,699 --> 00:13:31,769
radiator basically takes one side of the

319
00:13:36,620 --> 00:13:34,709
of the ELC and that's actually being

320
00:13:39,259 --> 00:13:36,630
installed this week so it's a major

321
00:13:44,240 --> 00:13:39,269
activity for for the preparation of that

322
00:13:46,009 --> 00:13:44,250
flight which is UL a5 sts-133 in

323
00:13:47,540 --> 00:13:46,019
addition going on in Florida right now

324
00:13:49,759 --> 00:13:47,550
as we're also preparing the other

325
00:13:51,790 --> 00:13:49,769
external logistics carrier that we have

326
00:13:55,280 --> 00:13:51,800
that's going to fly up on you LF six or

327
00:13:56,870 --> 00:13:55,290
sts-134 we're preparing the the spares

328
00:14:00,500 --> 00:13:56,880
that are going to fly on that on that

329
00:14:03,230 --> 00:14:00,510
module as well the Alpha Magnetic

330
00:14:05,990 --> 00:14:03,240
Spectrometer as you guys know it says

331
00:14:09,350 --> 00:14:06,000
undergoing its final reassembly and

332
00:14:12,050 --> 00:14:09,360
tests over in Switzerland as we speak

333
00:14:16,430 --> 00:14:12,060
and it'll be arriving later this summer

334
00:14:19,100 --> 00:14:16,440
in in Florida on board the crew in

335
00:14:21,440 --> 00:14:19,110
addition to preparing for these EVs and

336
00:14:23,210 --> 00:14:21,450
doing some maintenance work they're also

337
00:14:25,850 --> 00:14:23,220
performing research we've been

338
00:14:28,100 --> 00:14:25,860

performing a expert called say more

339
00:14:29,840 --> 00:14:28,110
smoke and aerosol monitoring experiment

340
00:14:33,590 --> 00:14:29,850
which is looking at the performance of

341
00:14:35,630 --> 00:14:33,600
small particles and aerosols to lead

342
00:14:37,009 --> 00:14:35,640
towards better improved smoke detectors

343
00:14:39,380 --> 00:14:37,019
for space applications and also

344
00:14:41,269 --> 00:14:39,390
terrestrial applications we've been

345
00:14:43,400 --> 00:14:41,279
doing some capillary flow experiments

346
00:14:47,389 --> 00:14:43,410
which look at the capillary flow or flow

347
00:14:49,130 --> 00:14:47,399
of liquids in n0g this will help improve

348
00:14:51,199 --> 00:14:49,140
our theoretical understanding of

349
00:14:54,199 --> 00:14:51,209
capillary flow which we believe will

350
00:14:57,590 --> 00:14:54,209
lead to more improved designs for tanks

351
00:15:00,050 --> 00:14:57,600
for space applications again tanks to

352
00:15:02,930 --> 00:15:00,060
allow us to fly and restart engines in

353
00:15:06,259 --> 00:15:02,940
space which will need to to go beyond

354
00:15:07,699 --> 00:15:06,269
the low Earth orbit also one of the neat

355
00:15:09,439 --> 00:15:07,709
experiments we've been doing its really

356
00:15:14,300 --> 00:15:09,449
an educational experiment is called kids

357
00:15:15,650 --> 00:15:14,310
in microg we've been having the the crew

358
00:15:17,420 --> 00:15:15,660
perform experiments that were actually

359
00:15:19,759 --> 00:15:17,430
designed by fifth through eighth grade

360
00:15:21,410 --> 00:15:19,769
students the students came up with ideas

361
00:15:24,920 --> 00:15:21,420
of experience that could be formed with

362
00:15:26,870 --> 00:15:24,930
classroom type activities a classroom

363
00:15:29,180 --> 00:15:26,880

type objects and they perform the

364
00:15:31,040 --> 00:15:29,190
experiment the design experiment in

365
00:15:33,020 --> 00:15:31,050
their classroom and then the crew is

366
00:15:35,360 --> 00:15:33,030
performing these experiments on or

367
00:15:37,220 --> 00:15:35,370
but and filming it and sharing it with

368
00:15:40,220 --> 00:15:37,230
these kits so it's that's a really neat

369
00:15:42,530 --> 00:15:40,230
activity to engage our children and

370
00:15:45,380 --> 00:15:42,540
encourage them to to take careers in

371
00:15:46,610 --> 00:15:45,390
math and sciences and the last thing

372
00:15:49,010 --> 00:15:46,620
I'll mention of course is what we're

373
00:15:53,390 --> 00:15:49,020
looking forward to our our Commercial

374
00:15:54,950 --> 00:15:53,400
Crew partners the Dragons basics dragon

375
00:15:56,120 --> 00:15:54,960
is going to have its first demonstration

376
00:15:57,530 --> 00:15:56,130
flight later the summer and we're

377
00:15:59,720 --> 00:15:57,540
looking forward to that and that flights

378
00:16:01,790 --> 00:15:59,730
not going to ISS but it's an important

379
00:16:04,010 --> 00:16:01,800
precursor leading up to the first

380
00:16:06,320 --> 00:16:04,020
commercial resupply flight which is

381
00:16:08,360 --> 00:16:06,330
going to be to ISS which will be next

382
00:16:11,690 --> 00:16:08,370
year so with that I'll hand it back to

383
00:16:15,650 --> 00:16:11,700
Brandi okay and we'll start by taking

384
00:16:18,260 --> 00:16:15,660
some questions here in the room Gina

385
00:16:20,570 --> 00:16:18,270
sensory for Chris Oh ABC News sorry I

386
00:16:23,750 --> 00:16:20,580
know you don't lightly toss something

387
00:16:25,640 --> 00:16:23,760
overboard like this camera so what went

388
00:16:27,290 --> 00:16:25,650

to the decision to jettison the camera

389
00:16:30,230 --> 00:16:27,300
and what kind of risk it orbital debris

390
00:16:34,070 --> 00:16:30,240
risk it would provide well there is a

391
00:16:35,960 --> 00:16:34,080
formal process to jettison objects it

392
00:16:38,150 --> 00:16:35,970
basically it comes down to a risk trade

393
00:16:40,250 --> 00:16:38,160
between bringing it back inside versus

394
00:16:42,290 --> 00:16:40,260
throwing it overboard and in order to

395
00:16:43,790 --> 00:16:42,300
normally to jettison something we have

396
00:16:46,940 --> 00:16:43,800
to show that bringing it back inside is

397
00:16:49,190 --> 00:16:46,950
either risky to the crew or it causes

398
00:16:51,650 --> 00:16:49,200
problems in terms of internal stowage on

399
00:16:53,840 --> 00:16:51,660
the station or we can't figure out a way

400
00:16:56,000 --> 00:16:53,850
to get rid of it on a progress vehicle s

401
00:16:57,980 --> 00:16:56,010
trash so in this case what the a TV

402
00:17:00,560 --> 00:16:57,990
camera it does present a hazard to the

403
00:17:02,390 --> 00:17:00,570
crew due to the insulation surrounding

404
00:17:04,310 --> 00:17:02,400
the camera the concern is that that

405
00:17:07,040 --> 00:17:04,320
insulation could flake loose inside the

406
00:17:08,990 --> 00:17:07,050
cabin resulting in fibers that the crew

407
00:17:11,120 --> 00:17:09,000
could breathe in so when that once that

408
00:17:12,770 --> 00:17:11,130
determination was made than it was clear

409
00:17:15,560 --> 00:17:12,780
that jettisoning was the right thing to

410
00:17:18,590 --> 00:17:15,570
do then we proceeded to do ballistics

411
00:17:21,410 --> 00:17:18,600
analysis our trajectory operations team

412
00:17:23,090 --> 00:17:21,420
here in Houston analyzed the physical

413
00:17:25,700 --> 00:17:23,100

properties of the object in order to

414
00:17:28,580 --> 00:17:25,710
predict the relative motion the orbital

415
00:17:30,350 --> 00:17:28,590
mechanics of the object as its discarded

416
00:17:31,880 --> 00:17:30,360
from the station we also assure that the

417
00:17:33,560 --> 00:17:31,890
crews thoroughly trained and the proper

418
00:17:35,330 --> 00:17:33,570
techniques you want to be very

419
00:17:36,830 --> 00:17:35,340
deliberate and careful and know which

420
00:17:39,320 --> 00:17:36,840
way you're tossing something overboard

421
00:17:41,250 --> 00:17:39,330
so all that was part of the planning for

422
00:17:42,690 --> 00:17:41,260
the jettison of this object

423
00:17:45,180 --> 00:17:42,700
a little bit though we do have an

424
00:17:48,960 --> 00:17:45,190
official ISS policy on jettison

425
00:17:50,190 --> 00:17:48,970
activities and and and this which is we

426
00:17:52,530 --> 00:17:50,200
look at it well beforehand to do the

427
00:17:54,000 --> 00:17:52,540
ballistics and then and do this overall

428
00:17:56,010 --> 00:17:54,010
risk trade that Chris mentioned and then

429
00:17:57,390 --> 00:17:56,020
the last piece of the risk that it's not

430
00:18:00,060 --> 00:17:57,400
really an issue here but in general we

431
00:18:02,310 --> 00:18:00,070
look at is we actually based on the

432
00:18:04,230 --> 00:18:02,320
materials properties look at the risk to

433
00:18:07,290 --> 00:18:04,240
some to the population on the earth so

434
00:18:08,640 --> 00:18:07,300
if a particular object were too if we

435
00:18:10,170 --> 00:18:08,650
look to see if it would survive all the

436
00:18:12,960 --> 00:18:10,180
way to the surface of the earth and if

437
00:18:16,290 --> 00:18:12,970
so what would be the risk of causing

438
00:18:19,500 --> 00:18:16,300

damage to two people to property or

439
00:18:21,180 --> 00:18:19,510
injury to people on earth how large is

440
00:18:24,570 --> 00:18:21,190
this camera can give me the specs on it

441
00:18:25,950 --> 00:18:24,580
I don't have the specs with me now but I

442
00:18:30,270 --> 00:18:25,960
can get that to you it's you know it's

443
00:18:35,880 --> 00:18:30,280
approximately this size redbox sighs of

444
00:18:37,670 --> 00:18:35,890
course thank you Mark Caro for aviation

445
00:18:40,050 --> 00:18:37,680
week I had a couple of questions I

446
00:18:44,040 --> 00:18:40,060
wonder you know and a big-picture sense

447
00:18:46,440 --> 00:18:44,050
this gives you four Russian docking

448
00:18:49,430 --> 00:18:46,450
docking ports I'm wondering how

449
00:18:52,800 --> 00:18:49,440
important that is to the space station

450
00:18:56,040 --> 00:18:52,810
going forward especially when the

451
00:18:59,280 --> 00:18:56,050
shuttle won't be available and will this

452
00:19:03,690 --> 00:18:59,290
port also take the ATV once it's fully

453
00:19:06,180 --> 00:19:03,700
outfitted so for docking ports are

454
00:19:08,550 --> 00:19:06,190
really important to us several years ago

455
00:19:10,200 --> 00:19:08,560
we we worked as a partnership and agreed

456
00:19:12,000 --> 00:19:10,210
that we needed to have for docking ports

457
00:19:13,800 --> 00:19:12,010
in particular for this time frame

458
00:19:17,550 --> 00:19:13,810
because we have to have to SOI uses

459
00:19:20,880 --> 00:19:17,560
present and in order to allow progress

460
00:19:22,470 --> 00:19:20,890
is to come or an ATV to come and have

461
00:19:24,150 --> 00:19:22,480
some redundancy we really needed to have

462
00:19:26,040 --> 00:19:24,160
for docking ports so it was really

463
00:19:28,410 --> 00:19:26,050

important for from that perspective

464
00:19:30,300 --> 00:19:28,420
right now the ATV really can only come

465
00:19:33,240 --> 00:19:30,310
to the aft into the service module and

466
00:19:35,550 --> 00:19:33,250
Andrew that's our plan the ATV carries

467
00:19:37,350 --> 00:19:35,560
significant amount of propellant only a

468
00:19:39,900 --> 00:19:37,360
portion of it is transferable to the

469
00:19:42,120 --> 00:19:39,910
service module tanks and the FGB tanks

470
00:19:44,250 --> 00:19:42,130
the remainder needs to be used for

471
00:19:46,050 --> 00:19:44,260
reboost in order to use it for reboost

472
00:19:48,600 --> 00:19:46,060
to the entire stack it needs to be on

473
00:19:50,400 --> 00:19:48,610
the on the aft end so that's our plan is

474
00:19:52,680 --> 00:19:50,410
for ATVs to continue to fly just to the

475
00:19:54,210 --> 00:19:52,690
aft end and as you know we have

476
00:19:55,650 --> 00:19:54,220
camera that Christmas time at the only

477
00:19:58,560 --> 00:19:55,660
place with that camera is on that

478
00:20:00,930 --> 00:19:58,570
service module aft end thank you very

479
00:20:04,200 --> 00:20:00,940
much and I had another question that had

480
00:20:07,050 --> 00:20:04,210
to do with the last docking activity

481
00:20:09,990 --> 00:20:07,060
with the progress did you forget nailed

482
00:20:11,760 --> 00:20:10,000
down sort of what happened there and and

483
00:20:16,290 --> 00:20:11,770
whether it was the kind of a one-time

484
00:20:20,190 --> 00:20:16,300
issue as opposed to something that would

485
00:20:22,890 --> 00:20:20,200
be a problem again yeah so far the

486
00:20:25,950 --> 00:20:22,900
investigation is not complete what we

487
00:20:27,390 --> 00:20:25,960
believe the Russians have done the

488
00:20:29,910 --> 00:20:27,400

preliminary investigation and shared the

489
00:20:33,660 --> 00:20:29,920
results that the abort was nominal in

490
00:20:37,200 --> 00:20:33,670
other words the the the spacecraft lost

491
00:20:40,020 --> 00:20:37,210
link not complete link would link with

492
00:20:42,300 --> 00:20:40,030
this tell robotic operated panel they

493
00:20:43,860 --> 00:20:42,310
had turned it on it came on and then it

494
00:20:46,110 --> 00:20:43,870
lost link for that for a specified

495
00:20:48,240 --> 00:20:46,120
period of time if it hasn't regained

496
00:20:50,730 --> 00:20:48,250
link in that period of time it performs

497
00:20:52,410 --> 00:20:50,740
actually goes to free drift which means

498
00:20:54,840 --> 00:20:52,420
it turns everything off and just

499
00:20:57,540 --> 00:20:54,850
basically glides past ISS and that's

500
00:20:59,160 --> 00:20:57,550
exactly what happened so that part of it

501
00:21:01,110 --> 00:20:59,170
performed nominally the question is why

502
00:21:03,960 --> 00:21:01,120
did the why did it loose link we've

503
00:21:06,810 --> 00:21:03,970
actually performed to test subsequent to

504
00:21:10,050 --> 00:21:06,820
that on the on that system the teller

505
00:21:12,450 --> 00:21:10,060
robotic operator system and and it's

506
00:21:13,980 --> 00:21:12,460
performed nominally so we don't know the

507
00:21:16,080 --> 00:21:13,990
root cause of that and that's still

508
00:21:18,210 --> 00:21:16,090
under investigation and we expect to

509
00:21:23,760 --> 00:21:18,220
hear hear more from our partners as they

510
00:21:25,830 --> 00:21:23,770
learn more hi Robert Pearlman with

511
00:21:27,420 --> 00:21:25,840
collectspace.com first for the question

512
00:21:30,030 --> 00:21:27,430
about the space walk between the camera

513
00:21:31,680 --> 00:21:30,040

activity and the cabling is there one

514
00:21:32,850 --> 00:21:31,690
that takes precedence over the other if

515
00:21:35,160 --> 00:21:32,860
they were to run into trouble with one

516
00:21:38,010 --> 00:21:35,170
activity or the other that it has to be

517
00:21:40,770 --> 00:21:38,020
done on this space walk given activities

518
00:21:42,570 --> 00:21:40,780
down down the pike let's say the

519
00:21:46,530 --> 00:21:42,580
Russians do have another spacewalk

520
00:21:49,110 --> 00:21:46,540
planned in November therefore they will

521
00:21:50,910 --> 00:21:49,120
have another chance at at doing the

522
00:21:53,490 --> 00:21:50,920
camera task if it comes to that because

523
00:21:56,340 --> 00:21:53,500
a TV is not launching until December so

524
00:21:58,410 --> 00:21:56,350
there's I presume they will not spend an

525
00:21:59,790 --> 00:21:58,420
inordinate amount of time on the camera

526
00:22:02,790 --> 00:21:59,800
test that they will preserve enough time

527
00:22:04,850 --> 00:22:02,800
to do the cable routings if they run

528
00:22:07,610 --> 00:22:04,860
into trouble on the camera

529
00:22:09,460 --> 00:22:07,620
and with regards to the activities that

530
00:22:12,710 --> 00:22:09,470
have been going on this week with Dexter

531
00:22:14,390 --> 00:22:12,720
can you just provide an update on where

532
00:22:16,250 --> 00:22:14,400
they are I think I heard earlier today

533
00:22:18,200 --> 00:22:16,260
that there was that they had run into a

534
00:22:20,419 --> 00:22:18,210
little bit of trouble with it and wanted

535
00:22:23,330 --> 00:22:20,429
to see what the what the plan forward

536
00:22:26,450 --> 00:22:23,340
was sure Dexter's of course a very very

537
00:22:28,400 --> 00:22:26,460
complicated robot it's using its many

538
00:22:31,100 --> 00:22:28,410

joints but it's also using the SS rms

539
00:22:33,110 --> 00:22:31,110
and a lot of software on board and

540
00:22:35,780 --> 00:22:33,120
actually on the ground right now our

541
00:22:37,400 --> 00:22:35,790
plan is to use Dexter completely via

542
00:22:39,440 --> 00:22:37,410
ground control so the on-orbit crew

543
00:22:41,330 --> 00:22:39,450
really isn't involved in that operation

544
00:22:42,890 --> 00:22:41,340
so since it's been on orbit we've gone

545
00:22:45,650 --> 00:22:42,900
through a whole series of checkouts and

546
00:22:48,530 --> 00:22:45,660
we were leading up to this week to

547
00:22:51,590 --> 00:22:48,540
actually perform a replacement we have

548
00:22:53,720 --> 00:22:51,600
to basically power switch modules we

549
00:22:57,890 --> 00:22:53,730
call RPC and remote power control

550
00:23:00,470 --> 00:22:57,900
modules but basically banks of switches

551
00:23:01,940 --> 00:23:00,480
for the power of various components they

552
00:23:03,710 --> 00:23:01,950
each have a failed switch in these

553
00:23:05,450 --> 00:23:03,720
modules we were just going to swap them

554
00:23:07,850 --> 00:23:05,460
because if you swap them the failed

555
00:23:09,919 --> 00:23:07,860
switch goes to nothing if you get them

556
00:23:13,490 --> 00:23:09,929
lined up right so this would be actually

557
00:23:14,690 --> 00:23:13,500
be the first official repair that we've

558
00:23:17,049 --> 00:23:14,700
been performed but we'll have been

559
00:23:19,700 --> 00:23:17,059
performed by the by Dexter the spdm

560
00:23:21,980 --> 00:23:19,710
leading up to that we to yesterday and

561
00:23:24,650 --> 00:23:21,990
today we had planned some final

562
00:23:26,659 --> 00:23:24,660
activities one of them was to grab one

563
00:23:29,840 --> 00:23:26,669

of the art PCMs and actually pull it out

564
00:23:31,850 --> 00:23:29,850
and then put it right back in in the in

565
00:23:34,669 --> 00:23:31,860
performing that activity when we started

566
00:23:36,470 --> 00:23:34,679
to pull it out we were building up

567
00:23:38,240 --> 00:23:36,480
excessive forces and it doesn't mean

568
00:23:40,190 --> 00:23:38,250
that that we're damaging anything it

569
00:23:42,049 --> 00:23:40,200
actually has force sensors in there and

570
00:23:43,970 --> 00:23:42,059
we knew what we should expect in terms

571
00:23:46,490 --> 00:23:43,980
of force measurements and they were

572
00:23:48,740 --> 00:23:46,500
higher than than we expected and so we

573
00:23:51,409 --> 00:23:48,750
stood down we stopped and reinstalled it

574
00:23:54,740 --> 00:23:51,419
and left it at that so right now the

575
00:23:56,539 --> 00:23:54,750
team is is going back and spending some

576
00:23:57,799 --> 00:23:56,549
time to understand exactly why that is

577
00:23:59,659 --> 00:23:57,809
there are a number of reasons why that

578
00:24:02,510 --> 00:23:59,669
might be it might be something as simple

579
00:24:04,010 --> 00:24:02,520
as we were off a little bit on our turn

580
00:24:06,049 --> 00:24:04,020
counts of the bolts so we still had a

581
00:24:07,610 --> 00:24:06,059
thread or so engaged on the bolt could

582
00:24:10,010 --> 00:24:07,620
be that it was slightly misaligned it

583
00:24:11,480 --> 00:24:10,020
fits down in a in a channel and so if

584
00:24:14,540 --> 00:24:11,490
you're not exactly aligned when you pull

585
00:24:15,770 --> 00:24:14,550
something out it has forces when you do

586
00:24:18,110 --> 00:24:15,780
it with your hand it's real easy you

587
00:24:18,620 --> 00:24:18,120
just you just not nominally readjust and

588
00:24:20,690 --> 00:24:18,630

pull out

589
00:24:23,030 --> 00:24:20,700
but a robot doesn't do that it's a

590
00:24:25,970 --> 00:24:23,040
little more complicated so all these

591
00:24:27,440 --> 00:24:25,980
things are learning experiences we did

592
00:24:29,810 --> 00:24:27,450
expect to learn some things in this

593
00:24:32,000 --> 00:24:29,820
process and so there's nothing nothing

594
00:24:33,590 --> 00:24:32,010
major we believe is wrong at this point

595
00:24:35,480 --> 00:24:33,600
in time because we have some other

596
00:24:37,040 --> 00:24:35,490
activities going on of course

597
00:24:38,540 --> 00:24:37,050
preparation for the Russian dva and we

598
00:24:39,890 --> 00:24:38,550
saw we've also been spending a lot of

599
00:24:42,320 --> 00:24:39,900
time working on our oxygen generation

600
00:24:44,600 --> 00:24:42,330
system on the US side we've chosen to

601
00:24:46,340 --> 00:24:44,610
stand down for a few days as we speak

602
00:24:48,110 --> 00:24:46,350
here there's a team of engineers over in

603
00:24:50,450 --> 00:24:48,120
in the Mission Control Center team

604
00:24:52,040 --> 00:24:50,460
talking through what we think might be

605
00:24:55,130 --> 00:24:52,050
the issues and how we might go back and

606
00:24:57,200 --> 00:24:55,140
nail that down and we'll decide whether

607
00:24:59,540 --> 00:24:57,210
it be later this week or sometime later

608
00:25:02,240 --> 00:24:59,550
beyond that when it makes most sense to

609
00:25:04,760 --> 00:25:02,250
go and reinitiate that activity but we

610
00:25:06,830 --> 00:25:04,770
again this is all really a learning

611
00:25:08,780 --> 00:25:06,840
activity and and this is our future we

612
00:25:09,980 --> 00:25:08,790
expect it will get past this and in the

613
00:25:11,630 --> 00:25:09,990

future that's how we'll do a lot of

614
00:25:15,860 --> 00:25:11,640
maintenance activities outside us with

615
00:25:17,450 --> 00:25:15,870
with Dexter thank you okay I believe

616
00:25:18,800 --> 00:25:17,460
that is the last of our questions and we

617
00:25:20,630 --> 00:25:18,810
don't have any more questions at other

618
00:25:24,020 --> 00:25:20,640
NASA centers sorry we have one more

619
00:25:27,860 --> 00:25:24,030
follow-up Gina sincere ABC News for Kirk

620
00:25:29,810 --> 00:25:27,870
given.if another shuttle flight is

621
00:25:31,580 --> 00:25:29,820
landing what would be is going to take

622
00:25:34,070 --> 00:25:31,590
off if they do add another shuttle

623
00:25:37,040 --> 00:25:34,080
flight okay what would you what would

624
00:25:39,110 --> 00:25:37,050
your dream be to stuff on that flight to

625
00:25:40,880 --> 00:25:39,120
take up to the space station I mean

626
00:25:44,120 --> 00:25:40,890
you're welcome any opportunity to bring

627
00:25:46,790 --> 00:25:44,130
other supplies up by take it sure we're

628
00:25:48,260 --> 00:25:46,800
looking at we're looking at what cargo

629
00:25:50,780 --> 00:25:48,270
today we're looking at what cargo we

630
00:25:53,650 --> 00:25:50,790
would fly on that flight and so it

631
00:25:55,880 --> 00:25:53,660
really depends on what's happening with

632
00:25:58,040 --> 00:25:55,890
what's happening with a TV what's

633
00:26:00,320 --> 00:25:58,050
happening with HTV and what's happening

634
00:26:02,330 --> 00:26:00,330
with SpaceX and orbital and when those

635
00:26:03,770 --> 00:26:02,340
vehicles the ones later on in two

636
00:26:05,270 --> 00:26:03,780
thousand eleven and two thousand twelve

637
00:26:07,340 --> 00:26:05,280
are going to show up and that'll really

638
00:26:09,320 --> 00:26:07,350

drive what cargo we'd put on there for

639
00:26:11,240 --> 00:26:09,330
instance we do an assessment if we think

640
00:26:13,190 --> 00:26:11,250
those flights are going to slip we would

641
00:26:15,110 --> 00:26:13,200
look to make sure the number one that

642
00:26:18,860 --> 00:26:15,120
we're keeping the crew healthy so we

643
00:26:20,140 --> 00:26:18,870
have sufficient supplies of you know

644
00:26:23,050 --> 00:26:20,150
water and

645
00:26:25,420 --> 00:26:23,060
and but basic human needs those kinds of

646
00:26:27,340 --> 00:26:25,430
things we're looking we're looking to

647
00:26:29,590 --> 00:26:27,350
launch significant amount of payloads so

648
00:26:31,540 --> 00:26:29,600
both up and down one of the beauties of

649
00:26:33,220 --> 00:26:31,550
having an extra flight is we will have a

650
00:26:35,560 --> 00:26:33,230
significant down mass to bring home

651
00:26:37,020 --> 00:26:35,570
cargo not only cargo of items that are

652
00:26:40,150 --> 00:26:37,030
broken that we could repair but also

653
00:26:41,320 --> 00:26:40,160
payloads it samples and and so forth it

654
00:26:42,670 --> 00:26:41,330
will be able to bring down at that time

655
00:26:45,790 --> 00:26:42,680
frame instead of waiting for the first

656
00:26:47,500 --> 00:26:45,800
dragon return those are the kinds of

657
00:26:49,300 --> 00:26:47,510
things and then finally any spares in

658
00:26:51,040 --> 00:26:49,310
additional spares that we have to launch

659
00:26:55,390 --> 00:26:51,050
we're still manufacturing spares till

660
00:26:56,500 --> 00:26:55,400
take us through 2015 and beyond and so

661
00:26:57,490 --> 00:26:56,510
we'll have some additional ones that

662
00:26:59,830 --> 00:26:57,500
will have come off the assembly line

663
00:27:01,540 --> 00:26:59,840

that we would look to launch so it's

664
00:27:03,160 --> 00:27:01,550
hard to say exactly what specific

665
00:27:04,930 --> 00:27:03,170
equipment would launch but our

666
00:27:06,850 --> 00:27:04,940
philosophy again would be looking at

667
00:27:08,830 --> 00:27:06,860
when we think those other resupply

668
00:27:10,360 --> 00:27:08,840
flights will be and then making sure

669
00:27:13,060 --> 00:27:10,370
that we we meet our priorities number

670
00:27:15,790 --> 00:27:13,070
one keep the crew healthy number to make

671
00:27:17,770 --> 00:27:15,800
sure we have great research to go do

672
00:27:21,460 --> 00:27:17,780
both up and bringing samples down and

673
00:27:27,370 --> 00:27:21,470
then three spares to keep ISS up there

674
00:27:29,920 --> 00:27:27,380
for the long term morrow for aviation we

675
00:27:32,950 --> 00:27:29,930
could you kind of review where the Soyuz

676
00:27:35,560 --> 00:27:32,960
spacecraft or I no one is at Ross spot

677
00:27:40,270 --> 00:27:35,570
or the mrm not sure where the other one

678
00:27:45,340 --> 00:27:40,280
is docked right now let's see today we

679
00:27:52,030 --> 00:27:45,350
have one on on mrm one and the other is

680
00:27:58,750 --> 00:27:52,040
on mrm too so what else what else did

681
00:28:02,800 --> 00:27:58,760
and and p a p us yes i'm still trying to

682
00:28:05,560 --> 00:28:02,810
remember those names and in fact the

683
00:28:08,650 --> 00:28:05,570
earlier there's a question about which

684
00:28:11,710 --> 00:28:08,660
is more important the next one to go to

685
00:28:13,990 --> 00:28:11,720
us yet is is actually in december as

686
00:28:17,020 --> 00:28:14,000
well so we expect both those activities

687
00:28:19,390 --> 00:28:17,030
having the camera and those cables are

688
00:28:21,970 --> 00:28:19,400

important because both those active the

689
00:28:27,160 --> 00:28:21,980
next use of both both the service module

690
00:28:31,540 --> 00:28:27,170
afghan and and the mrm Nader is is in

691
00:28:35,570 --> 00:28:34,190
okay I think that was the last of the

692
00:28:38,660 --> 00:28:35,580
question so we'll wrap up today's

693
00:28:41,570 --> 00:28:38,670
briefing again Monday's spacewalk has

694
00:28:43,280 --> 00:28:41,580
got set to begin at 1045 p.m. central

695
00:28:45,800 --> 00:28:43,290
time that's when flight engineers Fyodor

696
00:28:47,840 --> 00:28:45,810
yurchikhin and Mikhail Kornienko will be

697
00:28:49,880 --> 00:28:47,850
heading out the door coverage of the

698
00:28:50,930 --> 00:28:49,890
spacewalk will begin at 10pm central as

699
00:28:53,720 --> 00:28:50,940
they begin to get ready for the

700
00:28:56,090 --> 00:28:53,730
spacewalk and then we'll also be back

701
00:28:58,550 --> 00:28:56,100
here on august 3rd for a briefing to

702
00:29:00,080 --> 00:28:58,560
tell you about the next space walk by us

703
00:29:03,080 --> 00:29:00,090
flight engineers Tracy Caldwell Dyson

704
00:29:05,000 --> 00:29:03,090
and doug wheelock that briefing again

705
00:29:06,680 --> 00:29:05,010
will be on august 3rd and the spacewalk

706
00:29:09,680 --> 00:29:06,690
itself will take place on August fifth

707
00:29:11,810 --> 00:29:09,690
in the meantime you can come back in at

708
00:29:14,390 --> 00:29:11,820
ten a.m. central time tomorrow for the

709
00:29:17,120 --> 00:29:14,400
daily ISS update and always as usual