
EXPEDITION 34
CHRIS HADFIELD
Flight Engineer

1
00:00:05,430 --> 00:00:03,750
good day this is mission control houston

2
00:00:07,909 --> 00:00:05,440
welcome and thank you for joining us for

3
00:00:10,310 --> 00:00:07,919
today's edition of iss update

4
00:00:12,310 --> 00:00:10,320
this friday february 8th

5
00:00:13,910 --> 00:00:12,320
we're coming to you now live from inside

6
00:00:15,589 --> 00:00:13,920
the international space station flight

7
00:00:17,029 --> 00:00:15,599
control room where the team has been

8
00:00:19,269 --> 00:00:17,039
monitoring the systems aboard the

9
00:00:20,790 --> 00:00:19,279
station

10
00:00:23,429 --> 00:00:20,800
and supporting the day's activities of

11
00:00:25,109 --> 00:00:23,439
the expedition 34 crew members

12
00:00:27,509 --> 00:00:25,119
leading the orbit 2 team here in the

13
00:00:31,750 --> 00:00:27,519

station flight control room today is

14
00:00:36,069 --> 00:00:33,830
serving as a capcom

15
00:00:39,430 --> 00:00:36,079
rob hayhurst responsible for relaying

16
00:00:40,950 --> 00:00:39,440
all ground messages up to the crew

17
00:00:42,790 --> 00:00:40,960
and now aboard the international space

18
00:00:44,709 --> 00:00:42,800
station is commander of the complex nasa

19
00:00:46,389 --> 00:00:44,719
astronaut kevin ford with flight

20
00:00:47,830 --> 00:00:46,399
engineers russian cosmonauts oleg

21
00:00:50,470 --> 00:00:47,840
novitskiy

22
00:00:52,630 --> 00:00:50,480
evgeny tarelkin who had arrived at the

23
00:00:54,150 --> 00:00:52,640
station back in october of last year and

24
00:00:57,350 --> 00:00:54,160
are closing out

25
00:00:59,510 --> 00:00:57,360
their 108th day in space

26
00:01:01,830 --> 00:00:59,520
to their right flight engineers roman

27
00:01:03,830 --> 00:01:01,840
romanenko canadian space agency

28
00:01:06,070 --> 00:01:03,840
astronaut chris hadfield and nasa

29
00:01:08,310 --> 00:01:06,080
astronaut tom marshburn arrived at the

30
00:01:10,550 --> 00:01:08,320
station in late december and now closed

31
00:01:13,109 --> 00:01:10,560
the week with 50 consecutive days in

32
00:01:15,670 --> 00:01:13,119
space and now for a look back at this

33
00:01:17,670 --> 00:01:15,680
week in space

34
00:01:19,910 --> 00:01:17,680
on monday commander kevin ford had

35
00:01:21,590 --> 00:01:19,920
performed plumbing on the waste and

36
00:01:23,270 --> 00:01:21,600
hygiene compartment in the tranquility

37
00:01:25,190 --> 00:01:23,280
node

38
00:01:27,749 --> 00:01:25,200

following that work he conducted a

39
00:01:29,510 --> 00:01:27,759
monthly fitness check and began work to

40
00:01:31,350 --> 00:01:29,520
upgrade the high rate communication

41
00:01:32,950 --> 00:01:31,360
system

42
00:01:35,270 --> 00:01:32,960
canadian astronaut and flight engineer

43
00:01:37,429 --> 00:01:35,280
chris hadfield spent some time on two

44
00:01:39,990 --> 00:01:37,439
ongoing materials experiments he

45
00:01:42,069 --> 00:01:40,000
photographed samples for the binary

46
00:01:43,910 --> 00:01:42,079
colloidal alloy test

47
00:01:46,230 --> 00:01:43,920
those samples consist of liquids

48
00:01:48,710 --> 00:01:46,240
containing microscopic solids and how

49
00:01:51,190 --> 00:01:48,720
they behave under various conditions he

50
00:01:53,030 --> 00:01:51,200
also set up in space 3 a similar

51
00:01:57,670 --> 00:01:53,040
experiment in the microgravity science

52
00:02:02,230 --> 00:01:59,990
on monday flight engineer tom marshburn

53
00:02:04,789 --> 00:02:02,240
replaced a centrifuge in the cell

54
00:02:06,469 --> 00:02:04,799
biology experiment facility he also did

55
00:02:08,309 --> 00:02:06,479
some plumbing work as he transferred

56
00:02:10,949 --> 00:02:08,319
water from the water recovery system to

57
00:02:13,910 --> 00:02:10,959
a contingency water container

58
00:02:16,630 --> 00:02:13,920
the tree of our cosmonauts were busy

59
00:02:19,350 --> 00:02:16,640
with research and upkeep inside the

60
00:02:21,030 --> 00:02:19,360
station's russian segment

61
00:02:22,790 --> 00:02:21,040
nowitzki and turrell can partner

62
00:02:24,949 --> 00:02:22,800
together inside the zvezda service

63
00:02:27,190 --> 00:02:24,959

module repairing interior panels

64
00:02:29,589 --> 00:02:27,200
nowitzki took some time out for ocean

65
00:02:31,670 --> 00:02:29,599
photography for the senior experiment

66
00:02:33,350 --> 00:02:31,680
and romanenko replaced dust filters and

67
00:02:35,990 --> 00:02:33,360
cleaned air ducts throughout the russian

68
00:02:38,070 --> 00:02:36,000
segment he also photographed landmarks

69
00:02:39,990 --> 00:02:38,080
on earth for the uruguayan experiment

70
00:02:44,949 --> 00:02:40,000
which studies the impacts of man-made

71
00:02:49,190 --> 00:02:47,030
and on tuesday flight engineer tom

72
00:02:51,509 --> 00:02:49,200
marshburn spoke to students from his

73
00:02:53,430 --> 00:02:51,519
native home state speaking from the

74
00:02:56,229 --> 00:02:53,440
north carolina museum of natural

75
00:02:57,910 --> 00:02:56,239
sciences in raleigh north carolina the

76
00:03:00,070 --> 00:02:57,920
kids ask questions such as what it's

77
00:03:02,630 --> 00:03:00,080
like to eat in space and work in stiff

78
00:03:05,670 --> 00:03:02,640
space suits

79
00:03:09,430 --> 00:03:05,680
marshburn also spent most of his morning

80
00:03:11,430 --> 00:03:09,440
tuesday on the fluids physics experiment

81
00:03:12,949 --> 00:03:11,440
capillary flow experiment the study

82
00:03:15,190 --> 00:03:12,959
observes the behavior of fluids in

83
00:03:17,190 --> 00:03:15,200
microgravity

84
00:03:19,430 --> 00:03:17,200
the results from that study could

85
00:03:21,830 --> 00:03:19,440
improve the design of fluid transfer

86
00:03:25,670 --> 00:03:21,840
systems on future spacecraft such as

87
00:03:29,830 --> 00:03:27,589
and on tuesday canadian astronaut and

88
00:03:31,509 --> 00:03:29,840

flight engineer chris hadfield

89
00:03:32,710 --> 00:03:31,519
worked on a couple experiments including

90
00:03:35,030 --> 00:03:32,720
the

91
00:03:37,270 --> 00:03:35,040
one targeted to uh students that

92
00:03:40,149 --> 00:03:37,280
demonstrated playing games or sports in

93
00:03:42,390 --> 00:03:40,159
space outfield later powered up the

94
00:03:44,830 --> 00:03:42,400
microgravity science glove box again for

95
00:03:46,470 --> 00:03:44,840
the inspace 3

96
00:03:47,990 --> 00:03:46,480
experiment

97
00:03:49,990 --> 00:03:48,000
commander kevin ford spent most of

98
00:03:52,390 --> 00:03:50,000
tuesday reconfiguring cables for the

99
00:03:53,990 --> 00:03:52,400
joint station local area network the

100
00:03:56,070 --> 00:03:54,000
cable work is in preparation for the

101
00:03:59,589 --> 00:03:56,080
installation of a new ku communications

102
00:04:02,309 --> 00:03:59,599
unit inside the destiny laboratory

103
00:04:07,589 --> 00:04:02,319
nowitzki and tarelkin on tuesday worked

104
00:04:11,830 --> 00:04:09,990
that steady test new procedures and

105
00:04:14,309 --> 00:04:11,840
methods for detecting and locating

106
00:04:17,349 --> 00:04:14,319
pressure leaks on the space station and

107
00:04:19,670 --> 00:04:17,359
romanenko audited the availability of

108
00:04:21,830 --> 00:04:19,680
stowage space and the station's russian

109
00:04:24,469 --> 00:04:21,840
segment

110
00:04:26,150 --> 00:04:24,479
also on tuesday the expedition 34 crew

111
00:04:28,790 --> 00:04:26,160
received a special call

112
00:04:30,310 --> 00:04:28,800
that morning when apollo 17 commander

113
00:04:32,710 --> 00:04:30,320

eugene cernan

114
00:04:34,230 --> 00:04:32,720
visited mission control houston cernan

115
00:04:36,310 --> 00:04:34,240
along with several guests called and

116
00:04:39,590 --> 00:04:36,320
congratulated the crew from the capcom

117
00:04:43,590 --> 00:04:41,590
then on wednesday the japanese robotic

118
00:04:45,830 --> 00:04:43,600
arm attached to the kibo laboratory was

119
00:04:48,070 --> 00:04:45,840
used overnight to inspect experiments

120
00:04:50,070 --> 00:04:48,080
located outside the lab module on the

121
00:04:51,590 --> 00:04:50,080
exposed pallet

122
00:04:54,070 --> 00:04:51,600
inside the vehicle the six-member

123
00:04:56,150 --> 00:04:54,080
expedition 34 crew began preparing for

124
00:04:58,790 --> 00:04:56,160
the launch of the spacex dragon resupply

125
00:05:00,870 --> 00:04:58,800
craft inspecting safety gear and

126
00:05:03,029 --> 00:05:00,880
conducting international science

127
00:05:04,469 --> 00:05:03,039
commander kevin ford held a conference

128
00:05:06,790 --> 00:05:04,479
with specialists on the ground

129
00:05:08,950 --> 00:05:06,800
discussing items to be packed stowed and

130
00:05:11,830 --> 00:05:08,960
returned aboard the dragon capsule when

131
00:05:13,510 --> 00:05:11,840
it arrives next month

132
00:05:15,670 --> 00:05:13,520
ford also worked throughout the day

133
00:05:17,909 --> 00:05:15,680
loading new software inside an express

134
00:05:18,950 --> 00:05:17,919
rack which houses multiple science

135
00:05:20,790 --> 00:05:18,960
payloads

136
00:05:22,629 --> 00:05:20,800
he then performed some plumbing work

137
00:05:25,749 --> 00:05:22,639
replacing a recycled tank inside the

138
00:05:27,990 --> 00:05:25,759

water recycle system

139
00:05:29,909 --> 00:05:28,000
also on wednesday flight engineer chris

140
00:05:32,230 --> 00:05:29,919
hadfield continued his work on the

141
00:05:34,550 --> 00:05:32,240
ongoing physics experiment and in space

142
00:05:38,150 --> 00:05:34,560
3. flight engineer tom marshburn

143
00:05:40,150 --> 00:05:38,160
inspected portable safety gear

144
00:05:42,870 --> 00:05:40,160
such as a oxygen mask and fire

145
00:05:45,510 --> 00:05:42,880
extinguishers he inspected the gear

146
00:05:47,510 --> 00:05:45,520
located throughout the space station

147
00:05:50,469 --> 00:05:47,520
also on wednesday flight engineers oleg

148
00:05:52,950 --> 00:05:50,479
novitskiy evgeny tarelkin and romanenko

149
00:05:55,430 --> 00:05:52,960
continued auditing the availability of

150
00:05:58,230 --> 00:05:55,440
storage space and worked ongoing science

151
00:06:02,150 --> 00:06:00,150
then yesterday on thursday

152
00:06:05,430 --> 00:06:02,160
the cosmonauts and flight engineers oleg

153
00:06:07,590 --> 00:06:05,440
novitskiy and roman romanenko practice

154
00:06:09,350 --> 00:06:07,600
for the progress 50 resupply vehicle's

155
00:06:11,510 --> 00:06:09,360
arrival

156
00:06:13,990 --> 00:06:11,520
on the tele-robotically operated

157
00:06:15,830 --> 00:06:14,000
rendezvous system also known as the toru

158
00:06:18,070 --> 00:06:15,840
the toru allows

159
00:06:19,909 --> 00:06:18,080
a crew member to control and dock a

160
00:06:21,990 --> 00:06:19,919
vehicle in the unlikely event the

161
00:06:23,909 --> 00:06:22,000
spacecraft's automated rendezvous system

162
00:06:26,070 --> 00:06:23,919
fails

163
00:06:28,870 --> 00:06:26,080

the original captain of the uss

164
00:06:30,469 --> 00:06:28,880
enterprise captain kirk william shatner

165
00:06:32,830 --> 00:06:30,479
called the international space station

166
00:06:35,749 --> 00:06:32,840
thursday morning for a chat with flight

167
00:06:37,830 --> 00:06:35,759
engineer chris hadfield the duo had

168
00:06:40,390 --> 00:06:37,840
talked about the risk and benefits

169
00:06:43,189 --> 00:06:40,400
of space exploration and chris's home in

170
00:06:45,990 --> 00:06:43,199
ontario afterwards from inside the kibo

171
00:06:48,070 --> 00:06:46,000
laboratory hadfield

172
00:06:52,309 --> 00:06:48,080
chatted with visitors at the canadian

173
00:06:54,950 --> 00:06:52,319
space agency headquarters in quebec

174
00:06:56,790 --> 00:06:54,960
also on thursday hadfield

175
00:06:59,589 --> 00:06:56,800
with assistance from flight engineer tom

176
00:07:01,430 --> 00:06:59,599
marshburn participated on the neurospat

177
00:07:03,510 --> 00:07:01,440
experiment

178
00:07:06,150 --> 00:07:03,520
that study observes brain processing and

179
00:07:08,230 --> 00:07:06,160
spatial cognition and microgravity

180
00:07:11,909 --> 00:07:08,240
hadfield also continued more runs with

181
00:07:14,390 --> 00:07:11,919
the in space 3 experiment

182
00:07:15,670 --> 00:07:14,400
then on thursday marshburn performed a

183
00:07:18,550 --> 00:07:15,680
fitness test

184
00:07:20,150 --> 00:07:18,560
to ensure satisfactory cardiovascular

185
00:07:22,790 --> 00:07:20,160
health and performance

186
00:07:26,070 --> 00:07:22,800
washburn installed a hydrogen sensor in

187
00:07:28,150 --> 00:07:26,080
the oxygen generation system

188
00:07:30,550 --> 00:07:28,160

he also installed

189
00:07:32,950 --> 00:07:30,560
a gas mass flow controller to ensure

190
00:07:35,670 --> 00:07:32,960
power and nitrogen flow

191
00:07:40,230 --> 00:07:35,680
inside the total organic carbon analyzer

192
00:07:44,469 --> 00:07:42,070
on thursday also commander ford

193
00:07:46,550 --> 00:07:44,479
continued loading new software inside an

194
00:07:48,790 --> 00:07:46,560
express rack which houses multiple

195
00:07:50,390 --> 00:07:48,800
science payloads he then performed a

196
00:07:52,710 --> 00:07:50,400
hearing test on himself and later

197
00:07:57,029 --> 00:07:52,720
conducted some plumbing work assembling

198
00:08:01,029 --> 00:07:59,270
and finally today friday commander ford

199
00:08:03,830 --> 00:08:01,039
began installed

200
00:08:06,309 --> 00:08:03,840
a new software to the science

201
00:08:08,390 --> 00:08:06,319
experiments express rack 5. he then

202
00:08:10,629 --> 00:08:08,400
spent much of the day routing cables as

203
00:08:13,270 --> 00:08:10,639
part of an upgrade of the onboard high

204
00:08:14,869 --> 00:08:13,280
rate communication system

205
00:08:16,869 --> 00:08:14,879
meanwhile today flight engineer chris

206
00:08:19,110 --> 00:08:16,879
hadfield continued this week's work with

207
00:08:21,909 --> 00:08:19,120
the science experiment known as in space

208
00:08:24,629 --> 00:08:21,919
3. in space 3 again looks at the changes

209
00:08:27,270 --> 00:08:24,639
of physical properties of colloids

210
00:08:29,430 --> 00:08:27,280
and fluids and response to magnetic

211
00:08:31,430 --> 00:08:29,440
fields this research has possible

212
00:08:33,269 --> 00:08:31,440
technological application in a

213
00:08:35,110 --> 00:08:33,279

structured design here on earth

214
00:08:36,949 --> 00:08:35,120
including large-scale structures such as

215
00:08:41,190 --> 00:08:36,959
bridges and buildings to better

216
00:08:45,430 --> 00:08:43,509
also today hadfield spent some time to

217
00:08:47,750 --> 00:08:45,440
stow away the equipment

218
00:08:51,430 --> 00:08:47,760
used for the nearest bat experiment and

219
00:08:53,430 --> 00:08:51,440
saved data from yesterday's test runs

220
00:08:54,710 --> 00:08:53,440
hadfield and flight engineer tom

221
00:08:57,110 --> 00:08:54,720
marshburn

222
00:08:59,590 --> 00:08:57,120
reviewed and gathered pre-pack items for

223
00:09:01,190 --> 00:08:59,600
return to earth aboard the next dragon

224
00:09:03,110 --> 00:09:01,200
resupply ship

225
00:09:07,590 --> 00:09:03,120
that supply ship is due to arrive at the

226
00:09:11,430 --> 00:09:09,590
also today marshburn performed a variety

227
00:09:12,949 --> 00:09:11,440
of maintenance tasks to the onboard cold

228
00:09:15,190 --> 00:09:12,959
stowage equipment

229
00:09:17,350 --> 00:09:15,200
he reconfigured valves within the

230
00:09:19,829 --> 00:09:17,360
station freezer the minus 80 degree

231
00:09:22,150 --> 00:09:19,839
laboratory freezer

232
00:09:23,829 --> 00:09:22,160
and also installed a sensor harness to

233
00:09:26,310 --> 00:09:23,839
the merlin this is the microgravity

234
00:09:28,550 --> 00:09:26,320
experiment research locker incubator

235
00:09:30,870 --> 00:09:28,560
that provides a thermally controlled

236
00:09:33,269 --> 00:09:30,880
environment for scientific experiments

237
00:09:36,470 --> 00:09:33,279
it can be used as a freezer refrigerator

238
00:09:38,790 --> 00:09:36,480

or an incubator

239
00:09:40,310 --> 00:09:38,800
and today on friday marshburn also

240
00:09:41,750 --> 00:09:40,320
performed maintenance to the waste and

241
00:09:47,190 --> 00:09:41,760
hygiene compartment to remove and

242
00:09:49,990 --> 00:09:48,389
meanwhile on the russian side of the

243
00:09:52,550 --> 00:09:50,000
house russian flight engineers oleg

244
00:09:54,710 --> 00:09:52,560
novitskiy evgeny tarelkin and roman

245
00:09:58,310 --> 00:09:54,720
romanenko divide their day between

246
00:10:00,070 --> 00:09:58,320
maintenance and several experiments

247
00:10:01,990 --> 00:10:00,080
the progress vehicle now docked to the

248
00:10:04,949 --> 00:10:02,000
piers docking compartment known as

249
00:10:07,590 --> 00:10:04,959
progress 48 is scheduled to undock

250
00:10:09,670 --> 00:10:07,600
tomorrow morning at 7 15 a.m central

251
00:10:11,829 --> 00:10:09,680
time

252
00:10:13,750 --> 00:10:11,839
the departure of the resupply ship

253
00:10:16,470 --> 00:10:13,760
will uh clear piers for the arrival of

254
00:10:19,509 --> 00:10:16,480
the new progress resupply ship

255
00:10:22,310 --> 00:10:19,519
that supply ship is progress 50 that

256
00:10:23,750 --> 00:10:22,320
will launch on monday aft

257
00:10:26,069 --> 00:10:23,760
will arrive at the space station on

258
00:10:27,750 --> 00:10:26,079
monday afternoon that progress 50 is set

259
00:10:30,470 --> 00:10:27,760
to launch from the baikonur cosmodrome

260
00:10:32,790 --> 00:10:30,480
in kazakhstan on monday at 8 41 a.m

261
00:10:34,630 --> 00:10:32,800
central time

262
00:10:36,710 --> 00:10:34,640
and that's a wrap-up of this week aboard