



SONY

1
00:00:06,960 --> 00:00:12,150
this week at nasa

2
00:00:16,310 --> 00:00:14,230
outside the international space station

3
00:00:18,950 --> 00:00:16,320
expedition 35 flight engineers chris

4
00:00:21,429 --> 00:00:18,960
cassidy and tom marshburn of nasa

5
00:00:24,230 --> 00:00:21,439
conducted a 5-hour 30-minute spacewalk

6
00:00:26,550 --> 00:00:24,240
on the station's p6 truss to replace a

7
00:00:28,390 --> 00:00:26,560
suspect pump controller box which

8
00:00:30,470 --> 00:00:28,400
distributes coolant to the station's

9
00:00:32,950 --> 00:00:30,480
thermal control system the quick

10
00:00:35,110 --> 00:00:32,960
turnaround spacewalk was mounted just 48

11
00:00:36,790 --> 00:00:35,120
hours after an ammonia coolant lake

12
00:00:38,950 --> 00:00:36,800
developed on p6

13
00:00:41,110 --> 00:00:38,960

after installing the spare pump power

14
00:00:43,430 --> 00:00:41,120
was turned on and the system appeared to

15
00:00:45,590 --> 00:00:43,440
be working properly with no indications

16
00:00:47,110 --> 00:00:45,600
of ammonia leaking from the pump

17
00:00:49,750 --> 00:00:47,120
it's going to take some time it'll take

18
00:00:52,709 --> 00:00:49,760
some weeks for us to look at the system

19
00:00:55,110 --> 00:00:52,719
evaluate the system and and make sure we

20
00:00:56,630 --> 00:00:55,120
we did indeed stop the leak with the

21
00:00:58,069 --> 00:00:56,640
crew that we had

22
00:00:59,270 --> 00:00:58,079
they'd actually been out to this work

23
00:01:00,790 --> 00:00:59,280
site together

24
00:01:02,229 --> 00:01:00,800
on a previous shuttle mission so a lot

25
00:01:04,390 --> 00:01:02,239
of things worked in our favor to be able

26
00:01:06,310 --> 00:01:04,400
to pull this spacewalk together the

27
00:01:09,030 --> 00:01:06,320
spacewalk was the fourth for both

28
00:01:11,510 --> 00:01:09,040
cassidy and marshburn and the 168th

29
00:01:12,950 --> 00:01:11,520
spacewalk in support of station assembly

30
00:01:14,950 --> 00:01:12,960
and maintenance

31
00:01:17,270 --> 00:01:14,960
marshburn will return to earth monday

32
00:01:19,830 --> 00:01:17,280
night u.s time with expedition 35

33
00:01:21,910 --> 00:01:19,840
commander chris hadfield and cosmonaut

34
00:01:25,510 --> 00:01:21,920
roman romanenko in their soyuz

35
00:01:29,590 --> 00:01:27,429
nasa administrator charlie bolden

36
00:01:31,670 --> 00:01:29,600
delivered opening remarks at the humans

37
00:01:34,390 --> 00:01:31,680
to mars summit at george washington

38
00:01:37,510 --> 00:01:34,400

university the three-day event held by

39

00:01:39,990 --> 00:01:37,520

explore mars and gw's space policy

40

00:01:42,149 --> 00:01:40,000

institute provided a forum for nasa and

41

00:01:44,630 --> 00:01:42,159

the space community to discuss technical

42

00:01:46,950 --> 00:01:44,640

scientific and policy-related challenges

43

00:01:49,190 --> 00:01:46,960

associated with sending humans to mars

44

00:01:51,510 --> 00:01:49,200

by the 2030s there are technological

45

00:01:52,870 --> 00:01:51,520

gaps to sending humans to an asteroid

46

00:01:55,270 --> 00:01:52,880

and to mars

47

00:01:57,590 --> 00:01:55,280

and so every single

48

00:01:59,429 --> 00:01:57,600

moment of our time and every single

49

00:02:01,429 --> 00:01:59,439

dollar of our assets

50

00:02:03,749 --> 00:02:01,439

must be dedicated to developing those

51
00:02:05,830 --> 00:02:03,759
technologies that allow us to go beyond

52
00:02:08,070 --> 00:02:05,840
low earth orbit also discussed the

53
00:02:10,229 --> 00:02:08,080
planned nasa initiative to send humans

54
00:02:12,390 --> 00:02:10,239
to an asteroid and the importance of

55
00:02:14,150 --> 00:02:12,400
work by astronauts during long-duration

56
00:02:16,390 --> 00:02:14,160
missions aboard the international space

57
00:02:18,710 --> 00:02:16,400
station while not specifically designed

58
00:02:20,550 --> 00:02:18,720
to send humans to mars these endeavors

59
00:02:22,869 --> 00:02:20,560
will provide invaluable experience

60
00:02:24,630 --> 00:02:22,879
useful in planning and completing a

61
00:02:26,550 --> 00:02:24,640
successful human journey to the red

62
00:02:28,150 --> 00:02:26,560
planet also we need to think about what

63
00:02:30,070 --> 00:02:28,160

we carry in terms of medical equipment

64

00:02:32,710 --> 00:02:30,080

for the crew other things along those

65

00:02:35,110 --> 00:02:32,720

lines so we get a chance to experience a

66

00:02:37,670 --> 00:02:35,120

different risk environment where we have

67

00:02:39,190 --> 00:02:37,680

you know a protracted return capability

68

00:02:40,309 --> 00:02:39,200

back to the earth and i think that's

69

00:02:43,030 --> 00:02:40,319

what we're going to have to do as we go

70

00:02:48,229 --> 00:02:45,830

sky lab the nation's first space station

71

00:02:51,589 --> 00:02:48,239

launched the board of saturn 5 rocket 40

72

00:02:53,430 --> 00:02:51,599

years ago on may 14 1973

73

00:02:55,589 --> 00:02:53,440

the three crews that completed missions

74

00:02:57,670 --> 00:02:55,599

aboard the experimental facility not

75

00:03:00,309 --> 00:02:57,680

only set successive new records for long

76

00:03:03,110 --> 00:03:00,319

duration space flight but also completed

77

00:03:05,030 --> 00:03:03,120

about 300 experiments covering physical

78

00:03:07,670 --> 00:03:05,040

and biomedical science and earth and

79

00:03:09,190 --> 00:03:07,680

space applications the skylab program

80

00:03:11,110 --> 00:03:09,200

also yielded knowledge that was

81

00:03:13,190 --> 00:03:11,120

eventually used in development of the

82

00:03:15,830 --> 00:03:13,200

international space station just as the

83

00:03:17,750 --> 00:03:15,840

work being performed on the iss now is

84

00:03:19,750 --> 00:03:17,760

helping nasa develop new missions that

85

00:03:23,350 --> 00:03:19,760

will extend our reach farther into the

86

00:03:25,030 --> 00:03:23,360

solar system as humans move outward into

87

00:03:26,229 --> 00:03:25,040

deeper space exploration we'll probably

88

00:03:28,470 --> 00:03:26,239

learn things that we weren't expecting

89

00:03:32,229 --> 00:03:28,480

to learn just as we did in sky lab in

90

00:03:34,149 --> 00:03:32,239

iss and the next things we do will be

91

00:03:37,030 --> 00:03:34,159

just as astounding as the step from

92

00:03:40,229 --> 00:03:37,040

skylab to iss is after the final crew

93

00:03:42,390 --> 00:03:40,239

left skylab in february 1974

94

00:03:47,670 --> 00:03:42,400

the empty spacecraft circled the earth

95

00:03:52,869 --> 00:03:50,070

during a nasa tv and flight event on may

96

00:03:55,030 --> 00:03:52,879

7th expedition 35 flight engineer tom

97

00:03:56,710 --> 00:03:55,040

marshburn of nasa discussed the work

98

00:03:58,390 --> 00:03:56,720

being done on the international space

99

00:04:00,309 --> 00:03:58,400

station with members of the senate

100

00:04:02,550 --> 00:04:00,319

committee on commerce science and

101
00:04:03,670 --> 00:04:02,560
transportation subcommittee on science

102
00:04:06,309 --> 00:04:03,680
and space

103
00:04:08,309 --> 00:04:06,319
chaired by florida's senator bill nelson

104
00:04:10,309 --> 00:04:08,319
the subcommittee conducts oversight of

105
00:04:12,309 --> 00:04:10,319
nasa and several other science and

106
00:04:13,750 --> 00:04:12,319
technology related agencies can you

107
00:04:16,310 --> 00:04:13,760
explain how

108
00:04:18,390 --> 00:04:16,320
you know u.s private space companies uh

109
00:04:19,349 --> 00:04:18,400
are using the iss as a technology

110
00:04:21,590 --> 00:04:19,359
platform

111
00:04:23,510 --> 00:04:21,600
if they can do it that is

112
00:04:25,510 --> 00:04:23,520
an incredibly impressive technology

113
00:04:27,510 --> 00:04:25,520

demonstration going into space is not

114

00:04:29,270 --> 00:04:27,520

easy they're coming up with great

115

00:04:31,350 --> 00:04:29,280

efficiencies great new technologies

116

00:04:32,870 --> 00:04:31,360

built on what nasa's already done so

117

00:04:34,950 --> 00:04:32,880

that they can get probably cheaper

118

00:04:37,430 --> 00:04:34,960

better faster get things up to the space

119

00:04:39,830 --> 00:04:37,440

station the scheduled may 14th return to

120

00:04:41,990 --> 00:04:39,840

earth of marshburn and expedition 35

121

00:04:44,310 --> 00:04:42,000

crewmates chris hadfield of the canadian

122

00:04:46,469 --> 00:04:44,320

space agency and roman romanenko of the

123

00:04:48,629 --> 00:04:46,479

russian federal space agency marks the

124

00:04:52,310 --> 00:04:48,639

completion of their five-month mission

125

00:04:57,350 --> 00:04:54,230

meanwhile the next crew headed to the

126

00:04:58,710 --> 00:04:57,360

space station expedition 3637 soyuz

127

00:05:01,110 --> 00:04:58,720

commander if you order your chicken of

128

00:05:03,749 --> 00:05:01,120

the russian federal space agency nasa

129

00:05:05,830 --> 00:05:03,759

flight engineer karen nyberg and flight

130

00:05:08,070 --> 00:05:05,840

engineer luca parmitano of the european

131

00:05:10,230 --> 00:05:08,080

space agency fielded questions from the

132

00:05:12,230 --> 00:05:10,240

news media as part of their pre-launch

133

00:05:15,029 --> 00:05:12,240

activities at the gagarin cosmonaut

134

00:05:16,870 --> 00:05:15,039

training center in star city russia

135

00:05:19,749 --> 00:05:16,880

the crew is scheduled to travel to the

136

00:05:21,590 --> 00:05:19,759

kazakhstan launch site may 16th to

137

00:05:23,990 --> 00:05:21,600

complete training in advance of its

138

00:05:26,390 --> 00:05:24,000

launch to the station on may 29th local

139

00:05:29,590 --> 00:05:28,150

after being incommunicado with the

140

00:05:32,310 --> 00:05:29,600

ground during the recent solar

141

00:05:34,390 --> 00:05:32,320

conjunction the mars curiosity rover is

142

00:05:36,550 --> 00:05:34,400

preparing to get back to wheeling around

143

00:05:39,029 --> 00:05:36,560

the red planet and thanks to a software

144

00:05:41,270 --> 00:05:39,039

update the rover now has the ability to

145

00:05:43,909 --> 00:05:41,280

navigate more on its own

146

00:05:46,230 --> 00:05:43,919

the new autonomous navigation capability

147

00:05:49,110 --> 00:05:46,240

or auto nav enables the rover to

148

00:05:51,110 --> 00:05:49,120

evaluate and select safe paths of travel

149

00:05:53,749 --> 00:05:51,120

with less input from the rover team on

150

00:05:55,749 --> 00:05:53,759

the ground curiosity also received a

151
00:05:57,909 --> 00:05:55,759
software update to prevent the sensitive

152
00:06:00,870 --> 00:05:57,919
telescopic eye of the chem cam

153
00:06:02,950 --> 00:06:00,880
instrument from being burned by the sun

154
00:06:05,350 --> 00:06:02,960
the update is designed to make sure kim

155
00:06:06,950 --> 00:06:05,360
kam's eye is never pointed directly at

156
00:06:09,110 --> 00:06:06,960
the sun

157
00:06:10,710 --> 00:06:09,120
and the rover team is also confirming

158
00:06:12,950 --> 00:06:10,720
the calibration of curiosity's

159
00:06:14,390 --> 00:06:12,960
navigation cameras before driving to a

160
00:06:16,390 --> 00:06:14,400
new location

161
00:06:18,790 --> 00:06:16,400
plans are in the works for a short drive

162
00:06:20,469 --> 00:06:18,800
to a new drill site called cumberland

163
00:06:22,950 --> 00:06:20,479

about nine feet west of where

164

00:06:26,790 --> 00:06:22,960

curiosity's drill first touched martian

165

00:06:31,350 --> 00:06:29,189

a new google earth engine time lapse

166

00:06:34,550 --> 00:06:31,360

made from landsat satellite imagery

167

00:06:37,749 --> 00:06:34,560

captures the rapid growth from 1984 to

168

00:06:39,749 --> 00:06:37,759

2012 of las vegas nevada the fastest

169

00:06:41,189 --> 00:06:39,759

growing city in the u.s over the past

170

00:06:42,870 --> 00:06:41,199

two decades

171

00:06:45,510 --> 00:06:42,880

each frame of the time lapse is

172

00:06:48,950 --> 00:06:45,520

constructed from a year of landsat data

173

00:06:50,309 --> 00:06:48,960

and equates to about a 1.7 terapixel

174

00:06:52,390 --> 00:06:50,319

snapshot

175

00:06:55,189 --> 00:06:52,400

jointly managed by nasa and the u.s

176
00:06:57,270 --> 00:06:55,199
geological survey the landsat program

177
00:07:00,550 --> 00:06:57,280
has acquired images of the earth's

178
00:07:02,150 --> 00:07:00,560
surface since 1972 providing critical

179
00:07:04,150 --> 00:07:02,160
scientific information about our

180
00:07:10,309 --> 00:07:04,160
changing planet the time lapse is

181
00:07:16,070 --> 00:07:11,670
intro

182
00:07:21,670 --> 00:07:19,189
these bugs flightless fruit flies may

183
00:07:22,870 --> 00:07:21,680
someday help make airplanes more fuel

184
00:07:24,469 --> 00:07:22,880
efficient

185
00:07:26,550 --> 00:07:24,479
their work starts in a wind tunnel at

186
00:07:28,710 --> 00:07:26,560
nasa's langley research center where

187
00:07:30,629 --> 00:07:28,720
technicians install the edge of a wing

188
00:07:33,029 --> 00:07:30,639

that's covered with a special coating

189

00:07:35,510 --> 00:07:33,039

the task is to

190

00:07:37,510 --> 00:07:35,520

design a surface that prevents insect

191

00:07:39,350 --> 00:07:37,520

residues from sticking okay and the

192

00:07:41,589 --> 00:07:39,360

reason is

193

00:07:44,469 --> 00:07:41,599

that if you have any residue sticking it

194

00:07:47,029 --> 00:07:44,479

trips the airflow over it rough airflow

195

00:07:49,029 --> 00:07:47,039

increases airplane fuel usage as much as

196

00:07:51,270 --> 00:07:49,039

30 percent says nasa's environmentally

197

00:07:52,790 --> 00:07:51,280

responsible aviation project between the

198

00:07:55,189 --> 00:07:52,800

commercial coatings we've looked at and

199

00:07:57,350 --> 00:07:55,199

new coatings or and surfaces that we've

200

00:07:59,270 --> 00:07:57,360

engineered and modified we've looked at

201
00:08:02,710 --> 00:07:59,280
about 60 different

202
00:08:04,309 --> 00:08:02,720
surfaces for the bugs it's up close

203
00:08:07,430 --> 00:08:04,319
they're launched at the coated wing at

204
00:08:09,749 --> 00:08:07,440
about 150 miles an hour the researchers

205
00:08:10,710 --> 00:08:09,759
goal to narrow the field of coatings to

206
00:08:12,629 --> 00:08:10,720
a few

207
00:08:20,629 --> 00:08:12,639
that are effective enough to test on an

208
00:08:26,710 --> 00:08:23,990
it was ready set soar at the 2012-2013

209
00:08:29,110 --> 00:08:26,720
nasa student launch projects challenge

210
00:08:31,029 --> 00:08:29,120
more than 600 students launched rockets

211
00:08:33,269 --> 00:08:31,039
of their own design complete with

212
00:08:35,269 --> 00:08:33,279
working science or engineering payloads

213
00:08:40,870 --> 00:08:35,279

at the event sponsored by marshall space

214

00:08:45,110 --> 00:08:42,790

the goal was to see which rocket could

215

00:08:47,430 --> 00:08:45,120

come closest to the one mile mark and

216

00:08:49,910 --> 00:08:47,440

safely return its payload to earth of

217

00:08:52,389 --> 00:08:49,920

the 54 teams that participated 10

218

00:08:54,790 --> 00:08:52,399

received preliminary awards the grand

219

00:08:57,509 --> 00:08:54,800

prize of five thousand dollars from atk

220

00:08:59,509 --> 00:08:57,519

aerospace group will be awarded may 17th

221

00:09:02,150 --> 00:08:59,519

after final post flight analysis and

222

00:09:03,509 --> 00:09:02,160

reviews are complete

223

00:09:05,190 --> 00:09:03,519

three

224

00:09:06,150 --> 00:09:05,200

two

225

00:09:08,710 --> 00:09:06,160

one

226

00:09:13,110 --> 00:09:08,720

roger have left off and the clock is

227

00:09:15,030 --> 00:09:13,120

operating on may 15 1963 mercury atlas 9

228

00:09:17,430 --> 00:09:15,040

the final manned space mission of the

229

00:09:19,590 --> 00:09:17,440

u.s mercury program launched from cape

230

00:09:21,990 --> 00:09:19,600

canaveral florida roger you're looking

231

00:09:25,430 --> 00:09:22,000

beautiful on board the spacecraft named

232

00:09:27,430 --> 00:09:25,440

faith 7 was astronaut gordon cooper

233

00:09:29,430 --> 00:09:27,440

despite technical problems near the end

234

00:09:31,990 --> 00:09:29,440

of the flight cooper and faith 7

235

00:09:33,829 --> 00:09:32,000

completed 22 orbits of earth and

236

00:09:35,350 --> 00:09:33,839

splashed down safely in the pacific

237

00:09:38,070 --> 00:09:35,360

ocean

238

00:09:40,070 --> 00:09:38,080

and that's this week at nasa for more on

239

00:09:42,949 --> 00:09:40,080

these and other stories or to follow us