1
00:01:22,149 --> 00:01:20,590
well we'd like to say that we're happy

2
00:01:24,730 --> 00:01:22,159
to be aboard Columbia on this very

3
00:01:26,020 --> 00:01:24,740
successful mission this flight has shown

4
00:01:27,899 --> 00:01:26,030
us that every once in a while life

5
00:01:30,760 --> 00:01:27,909
throws you a little bit of a curve and

6
00:01:32,679 --> 00:01:30,770
we would like to think that it's not the

7
00:01:35,730 --> 00:01:32,689
curve that counts but how we react to it

8
00:01:38,230 --> 00:01:35,740
I think we're gonna take advantage of

9
00:01:40,510 --> 00:01:38,240
having this mechanical failure on board

10
00:01:42,539 --> 00:01:40,520
to teach us more about hatches and make

11
00:01:45,370 --> 00:01:42,549
us better prepared for future flights

12
00:01:47,410 --> 00:01:45,380
and on the other side on the other hand

13
00:01:50,410 --> 00:01:47,420

we're having an extremely successful

14
00:01:51,999 --> 00:01:50,420
science flight Orpheus Paz and the waste

15
00:01:55,919 --> 00:01:52,009
shield satellites both had performed

16
00:01:58,300 --> 00:01:55,929
flawlessly the space vision system

17
00:02:00,809 --> 00:01:58,310
experiment has performed flawlessly and

18
00:02:03,490 --> 00:02:00,819
we've gotten a lot of myth big science

19
00:02:05,229 --> 00:02:03,500
experiments and work done that will be

20
00:02:07,319 --> 00:02:05,239
very beneficial to the space program

21
00:02:09,850 --> 00:02:07,329
into the US and to the world population

22
00:02:12,069 --> 00:02:09,860
so we're very happy about the way things

23
00:02:14,710 --> 00:02:12,079
have gone and we're going to react to

24
00:02:18,160 --> 00:02:14,720
and work with what we've seen happen

25
00:02:20,410 --> 00:02:18,170
already in a very positive way and we're

26
00:02:22,300 --> 00:02:20,420
ready for your questions now this is

27
00:02:24,879 --> 00:02:22,310
Marsha Dunning The Associated Press for

28
00:02:27,160 --> 00:02:24,889
dr. Jones or dr. Jernigan I realized

29
00:02:29,170 --> 00:02:27,170
that the remote possibility but how much

30
00:02:31,449 --> 00:02:29,180
thought have you given to what would you

31
00:02:33,729 --> 00:02:31,459
need to do to open that hatch in case an

32
00:02:36,160 --> 00:02:33,739
emergency spacewalk is needed what would

33
00:02:38,140 --> 00:02:36,170
it take to get it open and how nervous

34
00:02:39,789 --> 00:02:38,150
would you be forcing it open and knowing

35
00:02:55,090 --> 00:02:39,799
it might not so properly on your way

36
00:02:58,210 --> 00:02:55,100
back in even if we do have a mechanism

37
00:02:59,680 --> 00:02:58,220
that would stick we could remove the

38
00:03:02,920 --> 00:02:59,690

rigging from the exterior of the door if

39
00:03:05,229 --> 00:03:02,930
we had to and use the Delta P across the

40
00:03:08,140 --> 00:03:05,239
hatch in order to hold it on once we

41
00:03:10,660 --> 00:03:08,150
pressurize the airlock so if we got into

42
00:03:12,039 --> 00:03:10,670
that very remote possibility then we

43
00:03:17,099 --> 00:03:12,049
would work very hard to get that hatch

44
00:03:20,259 --> 00:03:17,109
open and very hard to get it sealed back

45
00:03:22,629 --> 00:03:20,269
mr. Filch an earth news village and

46
00:03:23,920 --> 00:03:22,639
Earth needs for tako realized didn't

47
00:03:25,330 --> 00:03:23,930
want to fire the thrusters when a white

48
00:03:27,100 --> 00:03:25,340
show was deployed to prevent

49
00:03:28,569 --> 00:03:27,110
contaminating it but how much closer

50
00:03:30,369 --> 00:03:28,579
would you have let it come to the shadow

51
00:03:31,000 --> 00:03:30,379
and feel comfortable before you would

52
00:03:32,589 --> 00:03:31,010
have finally quite

53
00:03:39,640 --> 00:03:32,599
go and hit the thrusters to get out of

54
00:03:42,880 --> 00:03:39,650
the way well Phil we had about 10 feet

55
00:03:45,430 --> 00:03:42,890
of clearance across the roof of the crew

56
00:03:47,440 --> 00:03:45,440
cabin and the closure rate was extremely

57
00:03:50,170 --> 00:03:47,450
slow so we could have taken it right

58
00:03:53,070 --> 00:03:50,180
down to probably a foot or several

59
00:03:55,030 --> 00:03:53,080
inches so we had quite a quite a bit of

60
00:03:56,910 --> 00:03:55,040
clearance and I think we might could

61
00:04:00,009 --> 00:03:56,920
have even gotten away with firing a

62
00:04:01,780 --> 00:04:00,019
forward firing thruster that wouldn't

63
00:04:04,809 --> 00:04:01,790

have condemned contaminated it too much

64
00:04:09,280 --> 00:04:04,819
so perhaps the science mission wasn't as

65
00:04:12,670 --> 00:04:09,290
as much risk as as we as it could have

66
00:04:15,099 --> 00:04:12,680
been but we had we had margin we had

67
00:04:18,490 --> 00:04:15,109
plenty of margin and again I'd like to

68
00:04:19,840 --> 00:04:18,500
emphasize that we were excited over the

69
00:04:22,120 --> 00:04:19,850
fact that we might have to fire the

70
00:04:23,800 --> 00:04:22,130
thrusters not over the fact that the way

71
00:04:25,659 --> 00:04:23,810
shield was about to hit us which it was

72
00:04:28,810 --> 00:04:25,669
not closure rate was so slow that

73
00:04:31,480 --> 00:04:28,820
everything was a very slow drama

74
00:04:32,830 --> 00:04:31,490
unfolding and the whole drama point was

75
00:04:37,300 --> 00:04:32,840
that we didn't want to fire the

76
00:04:39,610 --> 00:04:37,310
thrusters this is Irene brown with UPI

77
00:04:41,350 --> 00:04:39,620
for a story Musgrave and it must have

78
00:04:43,240 --> 00:04:41,360
gone through your mind with the hatch

79
00:04:45,430 --> 00:04:43,250
jam if that had happened on your last

80
00:04:47,710 --> 00:04:45,440
flight and I was just wondering what

81
00:04:56,109 --> 00:04:47,720
your personal thoughts on lessons

82
00:05:01,820 --> 00:04:58,879
well we've learned that that no matter

83
00:05:04,010 --> 00:05:01,830
happening don't you turn over to try to

84
00:05:07,010 --> 00:05:04,020
head off surprises then it is a kind of

85
00:05:11,230 --> 00:05:07,020
business of exploration discovery uh

86
00:05:13,459 --> 00:05:11,240
there is Chris and things do happen if

87
00:05:15,619 --> 00:05:13,469
if we've not been able to get out of the

88
00:05:17,689 --> 00:05:15,629

door my last night I will repair patient

89
00:05:20,839 --> 00:05:17,699
none we'd have probably had to come back

90
00:05:22,339 --> 00:05:20,849
and fix that fix any generic Bob and all

91
00:05:27,439 --> 00:05:22,349
the hatches and gone and done it again

92
00:05:29,659 --> 00:05:27,449
hurry for anybody the crew who wants to

93
00:05:31,999 --> 00:05:29,669
take it how well have you just the

94
00:05:33,649 --> 00:05:32,009
circadian shifting on this mission any

95
00:05:34,779 --> 00:05:33,659
problems with I'm not falling asleep

96
00:05:37,850 --> 00:05:34,789
when you're supposed to fall asleep

97
00:05:39,260 --> 00:05:37,860
waking up too early would you prefer to

98
00:05:41,299 --> 00:05:39,270
just slam shift a couple of nights

99
00:05:51,499 --> 00:05:41,309
before landing or are you adjusting to

100
00:05:53,510 --> 00:05:51,509
the cycles and then sleep in an extra

101
00:05:55,459 --> 00:05:53,520
hour and get up later and human nature

102
00:05:58,309 --> 00:05:55,469
being that it is that is the easiest way

103
00:05:59,779 --> 00:05:58,319
to shift and originally we were planning

104
00:06:01,339 --> 00:05:59,789
to shift eight hours and we've tacked a

105
00:06:03,769 --> 00:06:01,349
couple more onto that because we are

106
00:06:05,839 --> 00:06:03,779
shifting so well and it's easy to stay

107
00:06:07,999 --> 00:06:05,849
up late especially here in space with

108
00:06:09,679 --> 00:06:08,009
the tremendous views and then once you

109
00:06:11,059 --> 00:06:09,689
go to sleep we all have been sleeping

110
00:06:13,249 --> 00:06:11,069
very very well and we don't have any

111
00:06:15,350 --> 00:06:13,259
problem sleeping the eight or nine hours

112
00:06:20,439 --> 00:06:15,360
that they're giving us and so the shift

113
00:06:27,199 --> 00:06:20,449

has really been in essence a non-event

114
00:06:28,309 --> 00:06:27,209
on our CBS again for dr. Musgrave story

115
00:06:29,239 --> 00:06:28,319
out of this isn't out of the blue

116
00:06:30,860 --> 00:06:29,249
question because I don't know if

117
00:06:32,389 --> 00:06:30,870
anybody's passed this up but there's

118
00:06:34,670 --> 00:06:32,399
been a discovery today announced that

119
00:06:36,320 --> 00:06:34,680
that there is evidence of ice on the

120
00:06:38,029 --> 00:06:36,330
moon in the south polar caps which is

121
00:06:38,959 --> 00:06:38,039
pretty interesting stuff and I know

122
00:06:40,459 --> 00:06:38,969
you've given a lot of thought to

123
00:06:41,809 --> 00:06:40,469
exploration in general since we're

124
00:06:43,639 --> 00:06:41,819
talking about Mars tonight but what does

125
00:06:45,110 --> 00:06:43,649
that say to you that if there was in

126
00:06:47,299 --> 00:06:45,120
fact ice on the moon what sort of an

127
00:06:49,309 --> 00:06:47,309
advantage that make being or a leg up

128
00:06:55,850 --> 00:06:49,319
anyway down the road to colonizing or

129
00:06:58,519 --> 00:06:55,860
having long term basis there Danny

130
00:07:00,589 --> 00:06:58,529
probably know more about the natural

131
00:07:02,329 --> 00:07:00,599
resources that we need to find out there

132
00:07:05,779 --> 00:07:02,339
then I do they've probably done more

133
00:07:07,320 --> 00:07:05,789
thinking about that but clearly if there

134
00:07:09,059 --> 00:07:07,330
is ice in there

135
00:07:10,499 --> 00:07:09,069
water out there that is a natural

136
00:07:14,010 --> 00:07:10,509
resource which is extraordinarily

137
00:07:16,170 --> 00:07:14,020
important to establishing you know a

138
00:07:18,619 --> 00:07:16,180

permanent things such as an observatory

139
00:07:22,589 --> 00:07:18,629
in the moon or some kind of colony

140
00:07:25,140 --> 00:07:22,599
we need to eventually find a natural

141
00:07:26,939 --> 00:07:25,150
resources be a mining community out

142
00:07:28,980 --> 00:07:26,949
there extract the oxygen the

143
00:07:30,570 --> 00:07:28,990
manufacturing and the materials we need

144
00:07:32,809 --> 00:07:30,580
out there as opposed to carrying them

145
00:07:36,029 --> 00:07:32,819
out there I think that extraordinarily

146
00:07:37,920 --> 00:07:36,039
important finding in Mission Control did

147
00:07:43,740 --> 00:07:37,930
that they'd send it up to us early this

148
00:07:45,629 --> 00:07:43,750
morning bill this is the Stephen young

149
00:07:47,670 --> 00:07:45,639
with Reuters to finish up here on a

150
00:07:50,279 --> 00:07:47,680
light-hearted note four story

151
00:07:52,529 --> 00:07:50,289
a wandering story if you would feel an

152
00:07:55,279 --> 00:07:52,539
immense sense of irony if on your last

153
00:07:57,689 --> 00:07:55,289
mission you finally made contact with

154
00:07:59,730 --> 00:07:57,699
extraterrestrials and they came along to

155
00:08:08,369 --> 00:07:59,740
pick you up but you couldn't get outside

156
00:08:09,899 --> 00:08:08,379
because they had she stuck yeah if they

157
00:08:56,530 --> 00:08:09,909
were so advanced to get here they would

158
00:09:00,250 --> 00:08:58,600
at the firm Houston will go ahead and

159
00:09:02,530 --> 00:09:00,260
cycle that handle and there we're

160
00:09:04,780 --> 00:09:02,540
approaching sunset I'm hopeful as the

161
00:09:06,940 --> 00:09:04,790
Sun sets there will get a much better

162
00:09:29,670 --> 00:09:06,950
acuity with the spotlight on this in the

163
00:09:36,660 --> 00:09:32,790

Columbia Houston for Rommel thank you

164
00:09:39,450 --> 00:09:36,670
for cycling we are now convinced that

165
00:09:42,000 --> 00:09:39,460
there is no binding in that area and the

166
00:09:44,910 --> 00:09:42,010
those pictures you've provided us to

167
00:09:47,790 --> 00:09:44,920
confirm that it's uncomfortable the

168
00:09:53,519 --> 00:09:47,800
first ad we pick to look at picture is

169
00:09:55,470 --> 00:09:53,529
available what do you think of it and

170
00:09:58,200 --> 00:09:55,480
that's a great picture taco we couldn't

171
00:10:01,290 --> 00:09:58,210
see that on the first survey before and

172
00:10:02,910 --> 00:10:01,300
so that's a good data point and if we

173
00:10:05,820 --> 00:10:02,920
could move around to the other ones but

174
00:10:14,670 --> 00:10:05,830
you've you've angled the end-effector

175
00:10:18,720 --> 00:10:14,680
camera perfectly for that one thank you

176
00:10:22,860 --> 00:10:18,730
so this is the lower star birthday and

177
00:10:25,670 --> 00:10:22,870
we're looking at it upside down and we

178
00:10:28,230 --> 00:10:25,680
copy taco and you're moving there your

179
00:10:30,450 --> 00:10:28,240
Rommels moving that arm around like a

180
00:10:48,010 --> 00:10:30,460
fine microsurgeon we really appreciate

181
00:10:52,510 --> 00:10:49,990
maybe we're gonna roll the Edit vector

182
00:10:54,640 --> 00:10:52,520
and translate up to get the next one on

183
00:10:56,080 --> 00:10:54,650
the fourth side while we're up on the

184
00:11:03,190 --> 00:10:56,090
port side would you like to look at the

185
00:11:05,850 --> 00:11:03,200
foot on that side as well yes please

186
00:11:10,060 --> 00:11:08,740
okay well look at the first thing we

187
00:11:45,049 --> 00:11:10,070
come to the field of view I think if

188
00:11:50,269 --> 00:11:48,009

I use I was wrong here's this foot and

189
00:12:24,699 --> 00:11:50,279
we will get the picture stable would you

190
00:12:29,870 --> 00:12:27,499
Columbia Houston for taco and Rommel

191
00:12:31,970 --> 00:12:29,880
that completes our survey thank you for

192
00:12:34,910 --> 00:12:31,980
a really outstanding job this is an

193
00:12:37,850 --> 00:12:34,920
important visual record for when we get

194
00:12:41,329 --> 00:12:37,860
back on the ground and we also now have

195
00:12:44,180 --> 00:12:41,339
an accurate record of the situation on

196
00:12:58,850 --> 00:12:44,190
orbit so we've completed the survey and

197
00:13:14,600 --> 00:12:58,860
you're free to cradle the arm spaceship

198
00:13:16,939 --> 00:13:14,610
Columbia position sts-80 the organ donor

199
00:13:19,490 --> 00:13:16,949
program has the potential to benefit

200
00:13:21,530 --> 00:13:19,500
millions of Americans we are here to

201
00:13:27,410 --> 00:13:21,540
show our support for this program by

202
00:13:30,350 --> 00:13:27,420
signing organ donor cards and space to

203
00:13:32,480 --> 00:13:30,360
give a part of fuel for someone who is

204
00:13:35,030 --> 00:13:32,490
in need is one of the most generous and

205
00:13:37,910 --> 00:13:35,040
caring things that you can do you

206
00:13:40,720 --> 00:13:37,920
continue to live in the life of someone

207
00:13:45,620 --> 00:13:43,850
by becoming an organ or tissue donor you

208
00:13:48,829 --> 00:13:45,630
can directly help friends relatives

209
00:13:50,269 --> 00:13:48,839
neighbors all across America you can

210
00:14:23,380 --> 00:13:50,279
touch lives in ways you've never

211
00:14:35,400 --> 00:14:27,009
we entire crew of STS 80 we thank you

212
00:14:48,400 --> 00:14:39,910
are you ready for the family probably

213
00:14:52,210 --> 00:14:48,410

not go ahead good day America I'm

214
00:14:54,040 --> 00:14:52,220
captain Ken cockerel and I'm commander

215
00:14:56,889 --> 00:14:54,050
Kent Rominger aboard the United States

216
00:15:01,780 --> 00:14:56,899
space shuttle Columbia over the 195