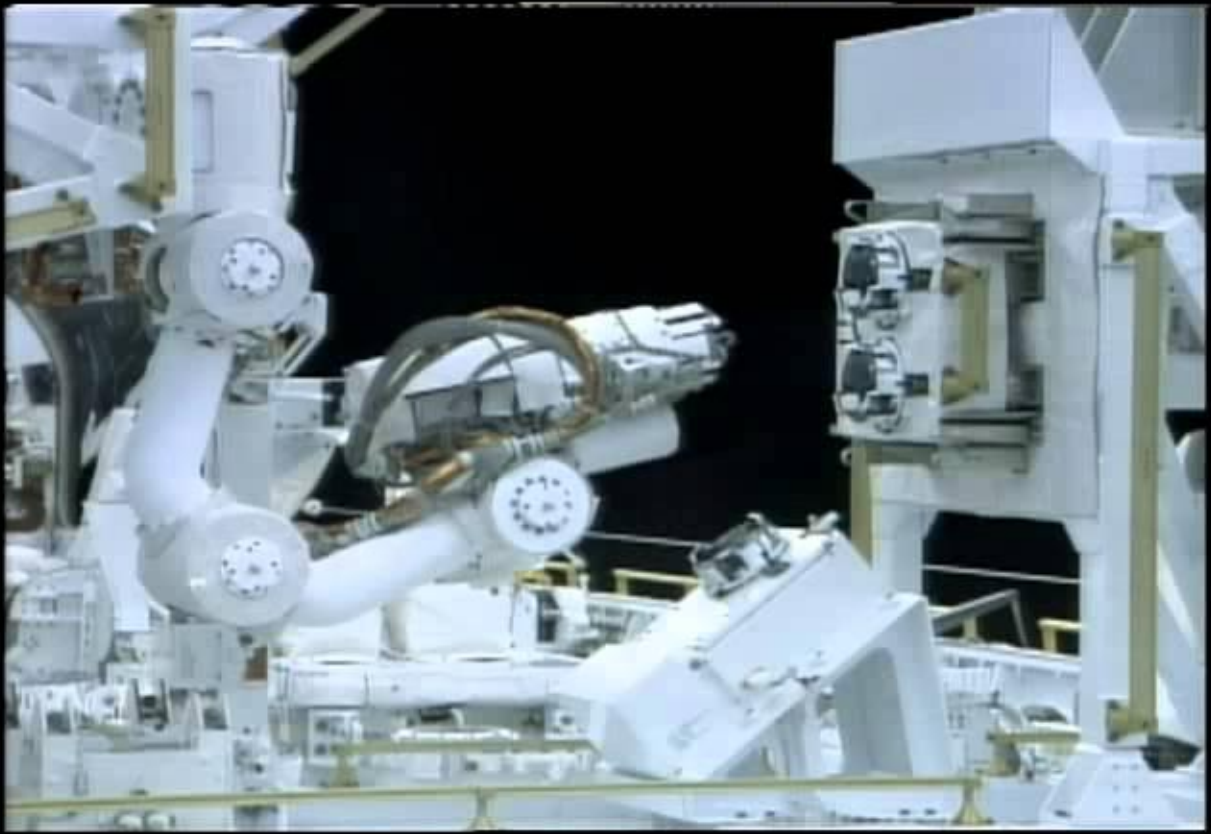

1
00:01:24,080 --> 00:02:09,430
is

2
00:02:09,440 --> 00:02:30,390
baby

3
00:02:30,400 --> 00:02:36,790
and good morning discovery

4
00:02:36,800 --> 00:02:40,150
good morning bill

5
00:02:45,750 --> 00:02:41,830
yeah good morning kurt uh we hope you

6
00:02:48,949 --> 00:02:47,509
thank you very much uh

7
00:02:50,790 --> 00:02:48,959
looks like it's another beautiful day in

8
00:05:22,710 --> 00:02:50,800
orbit and

9
00:05:22,720 --> 00:05:26,230
go ahead for mim

10
00:05:30,790 --> 00:05:29,110
on the oca i did try

11
00:05:33,270 --> 00:05:30,800
repowering

12
00:05:36,150 --> 00:05:33,280
with the scuzzy removed and the

13
00:05:37,590 --> 00:05:36,160

mod was cuz he removed and the system

14
00:05:39,909 --> 00:05:37,600
powers up fine

15
00:05:41,749 --> 00:05:39,919
when i insert the scuzzy

16
00:05:45,110 --> 00:05:41,759
and try to

17
00:05:46,710 --> 00:05:45,120
do that it just locks the system up

18
00:05:48,070 --> 00:05:46,720
the first time i did it there was no

19
00:07:52,629 --> 00:05:48,080
trouble at all but all the other times

20
00:07:56,469 --> 00:07:54,629
your mother is still in elizabethtown i

21
00:07:58,469 --> 00:07:56,479
understand and you have one son your

22
00:08:02,469 --> 00:07:58,479
family must be very proud

23
00:08:07,749 --> 00:08:04,390
well they're very proud but you know how

24
00:08:10,070 --> 00:08:07,759
moms are when you do things that

25
00:08:11,909 --> 00:08:10,080
that happen every few years and

26
00:08:13,990 --> 00:08:11,919
so she gets very excited but then she

27
00:08:16,390 --> 00:08:14,000
gets uh she's ready for me to come back

28
00:08:19,189 --> 00:08:16,400
home whenever i can get a chance

29
00:08:23,510 --> 00:08:19,199
sir so you're flying this ship what are

30
00:08:27,909 --> 00:08:25,990
well actually i'm responsible for making

31
00:08:30,150 --> 00:08:27,919
sure the mission goes um

32
00:08:33,110 --> 00:08:30,160
goes okay you know before we fly we have

33
00:08:35,029 --> 00:08:33,120
to train and get organized and prepare

34
00:08:37,269 --> 00:08:35,039
so that's a large part of it by the time

35
00:08:39,909 --> 00:08:37,279
we get up in space here everyone's very

36
00:08:41,509 --> 00:08:39,919
well prepared and i hardly really don't

37
00:08:43,269 --> 00:08:41,519
have to do much everyone knows their job

38
00:08:45,509 --> 00:08:43,279

and uh and they're very very uh

39
00:08:47,190 --> 00:08:45,519
professional so we we actually get up

40
00:08:48,870 --> 00:08:47,200
here and we each have our duties and we

41
00:08:53,509 --> 00:08:48,880
follow our the plan that we have each

42
00:08:57,430 --> 00:08:55,350
your main mission is to study the uh

43
00:08:59,670 --> 00:08:57,440
depletion of the earth's ozone layer and

44
00:09:01,110 --> 00:08:59,680
here in charlotte we hear a lot about

45
00:09:03,190 --> 00:09:01,120
ozone alert

46
00:09:04,710 --> 00:09:03,200
and trouble in the earth's atmosphere

47
00:09:06,310 --> 00:09:04,720
can you see that from your vantage point

48
00:09:11,269 --> 00:09:06,320
can you see over north carolina for

49
00:09:15,110 --> 00:09:12,949
well actually nancy we can't really see

50
00:09:16,790 --> 00:09:15,120
the ozone or um

51
00:09:19,269 --> 00:09:16,800
or anything any of the chemicals that

52
00:09:21,509 --> 00:09:19,279
we're really looking for what we can see

53
00:09:23,509 --> 00:09:21,519
from space and from the shuttle

54
00:09:26,389 --> 00:09:23,519
with our naked eyes that is is we can we

55
00:09:27,829 --> 00:09:26,399
can see some city smog

56
00:09:30,070 --> 00:09:27,839
sometimes when you have a big high

57
00:09:32,310 --> 00:09:30,080
pressure area over an area you wind up

58
00:09:34,230 --> 00:09:32,320
seeing a lot of haze and

59
00:09:35,509 --> 00:09:34,240
it kind of looks like smoke

60
00:09:37,430 --> 00:09:35,519
smog

61
00:09:39,590 --> 00:09:37,440
but uh the only other things we can

62
00:09:42,070 --> 00:09:39,600
really see from space with your naked

63
00:09:42,870 --> 00:09:42,080

eyes we can see some rivers and streams

64
00:09:45,110 --> 00:09:42,880
that

65
00:09:47,269 --> 00:09:45,120
flow into the ocean which uh

66
00:09:48,949 --> 00:09:47,279
it's not really pollution but it's the

67
00:09:51,509 --> 00:09:48,959
sediments and things that

68
00:09:52,949 --> 00:09:51,519
are caused by rain and different

69
00:09:55,590 --> 00:09:52,959
erosions

70
00:09:56,389 --> 00:09:55,600
we can see those things

71
00:09:58,470 --> 00:09:56,399
and

72
00:10:00,230 --> 00:09:58,480
if you have a volcano that erupts you

73
00:10:01,750 --> 00:10:00,240
can see all the plume and those kind of

74
00:10:04,150 --> 00:10:01,760
smoke and debris and

75
00:10:06,070 --> 00:10:04,160
things like that in the atmosphere what

76
00:10:08,550 --> 00:10:06,080
effect do you hope your mission uh the

77
00:10:10,710 --> 00:10:08,560
mars pathfinder the increased

78
00:10:11,990 --> 00:10:10,720
interest among americans in space is

79
00:10:15,350 --> 00:10:12,000
going to have on the future of the space

80
00:10:18,470 --> 00:10:16,949
well i think it's going to have a great

81
00:10:19,829 --> 00:10:18,480
effect the uh

82
00:10:21,990 --> 00:10:19,839
the space program we've been doing

83
00:10:24,150 --> 00:10:22,000
things that are fantastic for many years

84
00:10:26,870 --> 00:10:24,160
and unfortunately not everyone around

85
00:10:27,590 --> 00:10:26,880
the world hears about what we do so with

86
00:10:31,670 --> 00:10:27,600
the

87
00:10:33,750 --> 00:10:31,680
station our international space station

88
00:10:36,630 --> 00:10:33,760

which is coming here in a year or so

89
00:10:38,389 --> 00:10:36,640
and the uh the mars pathfinder all those

90
00:10:40,150 --> 00:10:38,399
things are very very

91
00:10:42,150 --> 00:10:40,160
things that we're kind of doing uh all

92
00:10:43,430 --> 00:10:42,160
the time with nasa and it's nice now the

93
00:10:44,949 --> 00:10:43,440
general public can see what we're doing

94
00:10:46,870 --> 00:10:44,959
so we're very very proud of all those

95
00:10:49,430 --> 00:10:46,880
things and we're going to continue to do

96
00:10:51,190 --> 00:10:49,440
those kind of things in the future

97
00:10:53,030 --> 00:10:51,200
you mentioned the international space

98
00:10:54,230 --> 00:10:53,040
station the future international space

99
00:10:56,870 --> 00:10:54,240
station i understand you're going to be

100
00:10:58,949 --> 00:10:56,880
testing this japanese-made robotic arm

101
00:11:03,509 --> 00:10:58,959
for possible use on this space station

102
00:11:07,910 --> 00:11:05,829
well actually as you know we have a

103
00:11:09,910 --> 00:11:07,920
canadian arm on board it's a it's a

104
00:11:12,150 --> 00:11:09,920
relatively long arm it's about the

105
00:11:14,230 --> 00:11:12,160
length of our payload bay about about 60

106
00:11:16,389 --> 00:11:14,240
feet and it's used primarily for

107
00:11:18,870 --> 00:11:16,399
deploying payloads and uh and grabbing

108
00:11:20,870 --> 00:11:18,880
payloads the small firearm that we're

109
00:11:22,870 --> 00:11:20,880
testing on this flight and we call it

110
00:11:24,230 --> 00:11:22,880
mfd because manipulator flight

111
00:11:26,550 --> 00:11:24,240
demonstration

112
00:11:28,790 --> 00:11:26,560
uh that small firearm will be at the end

113
00:11:32,310 --> 00:11:28,800

of a long arm similar to the big one we

114
00:11:34,069 --> 00:11:32,320
have and it will be able to say replace

115
00:11:37,030 --> 00:11:34,079
things on orbit without going outside

116
00:11:40,150 --> 00:11:37,040
you just do it by the robotic arm it can

117
00:11:42,710 --> 00:11:40,160
open doors undo bolts and we can replace

118
00:11:44,790 --> 00:11:42,720
things called r o r u's orbital

119
00:11:46,230 --> 00:11:44,800
replacement units or maybe change out

120
00:11:47,670 --> 00:11:46,240
payloads that are sitting out on the

121
00:11:48,550 --> 00:11:47,680
kind of the back porch of the space

122
00:11:49,750 --> 00:11:48,560
station

123
00:11:52,069 --> 00:11:49,760
out where

124
00:11:54,069 --> 00:11:52,079
we can't reach them without going eva or

125
00:11:55,750 --> 00:11:54,079
extra vehicular activity

126
00:11:57,030 --> 00:11:55,760
and we can use the robot arm just to

127
00:11:59,030 --> 00:11:57,040
reach out and grab them and put them

128
00:12:01,430 --> 00:11:59,040
maybe inside an airlock and uh and that

129
00:12:03,030 --> 00:12:01,440
way we can bring them back home

130
00:12:05,190 --> 00:12:03,040
tell us a little bit more about the

131
00:12:07,190 --> 00:12:05,200
status of this mission uh in general

132
00:12:09,269 --> 00:12:07,200
your primary mission is to check out the

133
00:12:13,670 --> 00:12:09,279
ozone level what kind of shape is

134
00:12:16,710 --> 00:12:15,269
well miriam uh

135
00:12:18,629 --> 00:12:16,720
you know that's kind of hard for me to

136
00:12:19,990 --> 00:12:18,639
say i'm not a scientist for the

137
00:12:21,269 --> 00:12:20,000
atmosphere but

138
00:12:24,310 --> 00:12:21,279

back in

139
00:12:25,990 --> 00:12:24,320
94 i flew an sts-66 and we had a similar

140
00:12:26,870 --> 00:12:26,000
satellite it was crystal spawn number

141
00:12:29,110 --> 00:12:26,880
one

142
00:12:31,430 --> 00:12:29,120
and we deployed it and it gathered a lot

143
00:12:33,269 --> 00:12:31,440
of data on the upper atmosphere on the

144
00:12:35,350 --> 00:12:33,279
ozone and all the chemicals in the upper

145
00:12:36,870 --> 00:12:35,360
atmosphere and this is the second flight

146
00:12:38,870 --> 00:12:36,880
of the crystal spas

147
00:12:40,949 --> 00:12:38,880
and they're looking for even more data

148
00:12:44,949 --> 00:12:40,959
to cover more the polar regions of the

149
00:12:46,949 --> 00:12:44,959
world which uh sts-66 could not cover so

150
00:12:48,790 --> 00:12:46,959
yesterday was a very busy day for us we

151
00:12:50,550 --> 00:12:48,800
deployed chris's spas

152
00:12:53,030 --> 00:12:50,560
and it's well on its way now collecting

153
00:12:54,310 --> 00:12:53,040
data of the earth

154
00:12:57,350 --> 00:12:54,320
and then you'll just bring it back in

155
00:12:59,750 --> 00:12:57,360
this is a very crowded flight 24

156
00:13:02,870 --> 00:12:59,760
payloads a lot of scientific experiments

157
00:13:05,190 --> 00:13:02,880
to conduct in all and in general is that

158
00:13:06,949 --> 00:13:05,200
where you see the future of this shuttle

159
00:13:12,949 --> 00:13:06,959
program moving towards just as a

160
00:13:18,470 --> 00:13:15,430
well miriam the shuttle is a very

161
00:13:19,829 --> 00:13:18,480
versatile uh machine it's amazing what

162
00:13:21,350 --> 00:13:19,839
we can do

163
00:13:23,350 --> 00:13:21,360

obviously we can take things up and

164
00:13:25,110 --> 00:13:23,360
deploy things and bring them back which

165
00:13:26,870 --> 00:13:25,120
we're going to do on this flight but

166
00:13:28,949 --> 00:13:26,880
also as you mentioned we have many many

167
00:13:30,710 --> 00:13:28,959
different payloads and activities we

168
00:13:31,829 --> 00:13:30,720
range from deploying the crystal

169
00:13:34,790 --> 00:13:31,839
satellite to study the earth's

170
00:13:36,389 --> 00:13:34,800
atmosphere we have many experiments that

171
00:13:38,710 --> 00:13:36,399
are designed to test equipment and

172
00:13:40,629 --> 00:13:38,720
design equipment for the future space

173
00:13:42,710 --> 00:13:40,639
station how it's going to be developed

174
00:13:43,990 --> 00:13:42,720
deployed and operated we also have

175
00:13:45,990 --> 00:13:44,000
astronomy on board we're going to be

176
00:13:48,310 --> 00:13:46,000
looking at the hellbop comet and also we

177
00:13:52,949 --> 00:13:48,320
have a bridge structure in the payload

178
00:13:54,629 --> 00:13:52,959
bay called ieh extreme uh uv hitchhiker

179
00:13:56,069 --> 00:13:54,639
and it's going to be gathering data on

180
00:13:57,990 --> 00:13:56,079
some of the uh

181
00:13:59,829 --> 00:13:58,000
items that are out in the uh in the

182
00:14:00,870 --> 00:13:59,839
space and deep space so we have quite a

183
00:14:03,269 --> 00:14:00,880
variety

184
00:14:04,710 --> 00:14:03,279
for this mission and that doesn't really

185
00:14:05,990 --> 00:14:04,720
count all the little things in the mid

186
00:14:07,910 --> 00:14:06,000
deck

187
00:14:11,750 --> 00:14:07,920
and other things are in the paler bay

188
00:14:19,430 --> 00:14:13,990

do you feel perfectly safe

189
00:14:23,269 --> 00:14:21,750
i think a little garbage there do we

190
00:14:24,949 --> 00:14:23,279
feel safe up here i think the answer

191
00:14:26,389 --> 00:14:24,959
there is definitely yes

192
00:14:28,150 --> 00:14:26,399
we have a great team of folks on the

193
00:14:29,750 --> 00:14:28,160
ground supporting us

194
00:14:30,550 --> 00:14:29,760
they're watching over us whatever we're

195
00:14:32,069 --> 00:14:30,560
doing

196
00:14:33,430 --> 00:14:32,079
they have a lot more data than we do so

197
00:14:35,910 --> 00:14:33,440
they have a better insight of the health

198
00:14:38,069 --> 00:14:35,920
of the vehicle but uh we go through a

199
00:14:39,269 --> 00:14:38,079
lot of training on the ground to prepare

200
00:14:40,949 --> 00:14:39,279
us for

201
00:14:42,550 --> 00:14:40,959
almost any malfunction that could happen

202
00:14:43,590 --> 00:14:42,560
in the orbiter and

203
00:14:45,350 --> 00:14:43,600
that's one of the good things about

204
00:14:46,629 --> 00:14:45,360
flying is you don't have to go back to