1
00:01:19,280 --> 00:01:16,999
joining us now from somewhere above the

2
00:01:21,440 --> 00:01:19,290
earth our astronauts Janice Voss Mike

3
00:01:23,300 --> 00:01:21,450
bernhardt and Roger crotch welcome to

4
00:01:25,700 --> 00:01:23,310
the program nice to see you guys out

5
00:01:27,260 --> 00:01:25,710
there I know that this is the second

6
00:01:28,700 --> 00:01:27,270
go-around the first mission was cut

7
00:01:30,590 --> 00:01:28,710
short back in April because of a

8
00:01:32,420 --> 00:01:30,600
generator problem how does it feel to be

9
00:01:39,350 --> 00:01:32,430
back in space Danna's will begin with

10
00:01:41,600 --> 00:01:39,360
you as you know this is the first chance

11
00:01:44,570 --> 00:01:41,610
to refi a payload and a crew all

12
00:01:46,130 --> 00:01:44,580
together the same groups so quickly and

13
00:01:47,690 --> 00:01:46,140

I think all of us are marveling at how

14
00:01:49,850 --> 00:01:47,700
much it feels like we just left here

15
00:01:51,139 --> 00:01:49,860
yesterday it's been much easier to get

16
00:01:52,490 --> 00:01:51,149
back in the swing of things all the

17
00:01:54,139 --> 00:01:52,500
experiments are going great and we all

18
00:01:55,399 --> 00:01:54,149
feel extremely comfortable and well

19
00:01:56,930 --> 00:01:55,409
prepared because we've done this so

20
00:01:59,029 --> 00:01:56,940
recently it's really been a great

21
00:02:00,770 --> 00:01:59,039
opportunity and I really have great

22
00:02:01,999 --> 00:02:00,780
kudos to the folks down to Cape and all

23
00:02:03,649 --> 00:02:02,009
the people in Mission Control in Houston

24
00:02:06,260 --> 00:02:03,659
center that works so hard to get

25
00:02:07,969 --> 00:02:06,270
everything turn around force soon as I

26
00:02:10,070 --> 00:02:07,979
understand that to all of you set up

27
00:02:13,400 --> 00:02:10,080
your orbiting laboratory up today and

28
00:02:20,449 --> 00:02:13,410
that you actually lit a controlled fire

29
00:02:23,259 --> 00:02:20,459
inside the module we should have you got

30
00:02:25,520 --> 00:02:23,269
our first experiment run on a next

31
00:02:27,680 --> 00:02:25,530
combustion module experiment of looking

32
00:02:29,449 --> 00:02:27,690
at producing suit which as you know is a

33
00:02:31,699 --> 00:02:29,459
heavy pollutants and also a very

34
00:02:32,840 --> 00:02:31,709
dangerous component of forest fires one

35
00:02:34,460 --> 00:02:32,850
of the great things about getting a

36
00:02:37,190 --> 00:02:34,470
chance to refi like this is this is why

37
00:02:39,319 --> 00:02:37,200
the experiments we ran two runs last

38
00:02:41,150 --> 00:02:39,329

time and after looking at the date of

39
00:02:43,490 --> 00:02:41,160
post flight and having a chance to think

40
00:02:45,800 --> 00:02:43,500
about what all the different downlink

41
00:02:47,180 --> 00:02:45,810
data they got meant they redesigned

42
00:02:49,940 --> 00:02:47,190
experimental to change some of the

43
00:02:51,789 --> 00:02:49,950
parameters and this first run on 94 was

44
00:02:55,699 --> 00:02:51,799
much better than either the runs on 83

45
00:02:59,120 --> 00:02:55,709
now Roger I understand that today you

46
00:03:00,650 --> 00:02:59,130
had a chance to quickly see the MIR

47
00:03:02,000 --> 00:03:00,660
space station that you had caught a

48
00:03:03,440 --> 00:03:02,010
glimpse of it you're in different orbits

49
00:03:07,520 --> 00:03:03,450
but he'd get a chance to talk to the

50
00:03:09,289 --> 00:03:07,530
crew at all all right fortunately that

51
00:03:10,699 --> 00:03:09,299
was another shift and I talked to those

52
00:03:12,830 --> 00:03:10,709
guys it's learn and they said it was

53
00:03:14,840 --> 00:03:12,840
absolutely bringing out in the sky I

54
00:03:17,569 --> 00:03:14,850
believe they said they were within about

55
00:03:19,670 --> 00:03:17,579
50 miles of the orbit of mere they could

56
00:03:21,860 --> 00:03:19,680
see it it looks like a big penis or

57
00:03:24,140 --> 00:03:21,870
about the size of the star or the planet

58
00:03:26,480 --> 00:03:24,150
Venus when you see that but there was no

59
00:03:28,610 --> 00:03:26,490
radio communication today later on

60
00:03:29,840 --> 00:03:28,620
hoping the possibility of having a

61
00:03:32,210 --> 00:03:29,850
chance to talk to them but they're

62
00:03:33,920 --> 00:03:32,220
pretty busy over there right now no they

63
00:03:35,120 --> 00:03:33,930

certainly are busy Mike let me ask you

64
00:03:37,250 --> 00:03:35,130
for a moment there are a lot of people

65
00:03:39,710 --> 00:03:37,260
were concerned about the activities are

66
00:03:42,020 --> 00:03:39,720
going on mirror right at this time there

67
00:03:43,640 --> 00:03:42,030
are concerns that maybe we should all to

68
00:03:45,110 --> 00:03:43,650
get a scrap the partnership with the

69
00:03:46,730 --> 00:03:45,120
Russians until they get the MIR space

70
00:03:48,440 --> 00:03:46,740
station fixed what are your thoughts

71
00:03:50,720 --> 00:03:48,450
about that do you think it's safe and

72
00:03:56,690 --> 00:03:50,730
what are your thoughts about that aspect

73
00:04:01,760 --> 00:03:56,700
of the program well I think that we are

74
00:04:03,740 --> 00:04:01,770
justified it being concerned however the

75
00:04:05,270 --> 00:04:03,750
situation is stable there and the thing

76
00:04:07,460 --> 00:04:05,280
that we have to remember is that they do

77
00:04:09,590 --> 00:04:07,470
have the Soyuz lifeboat so they can

78
00:04:12,590 --> 00:04:09,600
leave that station at any time and I

79
00:04:15,920 --> 00:04:12,600
think that it's only partnership with

80
00:04:17,300 --> 00:04:15,930
Russia has been a good thing for us I'm

81
00:04:19,550 --> 00:04:17,310
not saying that it's good that these

82
00:04:22,190 --> 00:04:19,560
contingencies have happen but we are

83
00:04:24,890 --> 00:04:22,200
learning from that it is making us a

84
00:04:27,290 --> 00:04:24,900
stronger team and bitterness for the

85
00:04:29,300 --> 00:04:27,300
International Space Station and I think

86
00:04:30,950 --> 00:04:29,310
don't we need to hang in there with them

87
00:04:34,430 --> 00:04:30,960
I think we've learned a lot working a

88
00:04:37,670 --> 00:04:34,440

lot more and we're working together well

89
00:04:41,150 --> 00:04:37,680
as a team and I can assure you that the

90
00:04:43,910 --> 00:04:41,160
management of NASA in Russia's is got

91
00:04:49,370 --> 00:04:43,920
safety for most in their mind and we'll

92
00:04:51,920 --> 00:04:49,380
do everything the right way flame is

93
00:05:05,710 --> 00:04:51,930
very very steady truly study it looks

94
00:05:19,660 --> 00:05:10,330
I'm dumb tricks already but that might

95
00:05:24,460 --> 00:05:19,670
be too far up one it's pretty close down

96
00:05:26,230 --> 00:05:24,470
one that looks like it might still be

97
00:05:27,670 --> 00:05:26,240
open to me guys don't go down one more

98
00:05:38,770 --> 00:05:27,680
unless you stop me all rights definitely

99
00:05:41,140 --> 00:05:38,780
open another going down hi Susan saw the

100
00:05:43,630 --> 00:05:41,150
pilot this is our site day two for the

101
00:05:47,130 --> 00:05:43,640
road team you can see I busily working

102
00:05:50,380 --> 00:05:47,140
on a laptop computer we call the pgs see

103
00:05:52,540 --> 00:05:50,390
that's the computer we used to talk to

104
00:05:55,690 --> 00:05:52,550
the ground also talk to our family if we

105
00:05:57,520 --> 00:05:55,700
need to panting around the cockpit here

106
00:05:59,080 --> 00:05:57,530
you can see it's pretty light outside so

107
00:06:02,010 --> 00:05:59,090
it's hard to see the commander's seat

108
00:06:05,380 --> 00:06:02,020
and becoming to add you see it better

109
00:06:07,510 --> 00:06:05,390
computer it's all started to spoil where

110
00:06:10,000 --> 00:06:07,520
we are the world so we always there

111
00:06:11,620 --> 00:06:10,010
exactly where we are in the wall a lot

112
00:06:14,409 --> 00:06:11,630
of camera equipment that we use for

113
00:06:17,170 --> 00:06:14,419

Earth Observation program will be the

114
00:06:19,300 --> 00:06:17,180
first drink on the ass panel and the

115
00:06:23,520 --> 00:06:19,310
overhead the ass windows you can see

116
00:06:26,740 --> 00:06:23,530
those now this is you are outside

117
00:06:29,200 --> 00:06:26,750
station if we were to eat decide the

118
00:06:31,150 --> 00:06:29,210
shuttle for that that is quite wall rod

119
00:06:34,090 --> 00:06:31,160
or but of course we wish you jostle and

120
00:06:38,230 --> 00:06:34,100
be coming around the right side we have

121
00:06:41,170 --> 00:06:38,240
all recorder so we can freak your place

122
00:06:43,630 --> 00:06:41,180
and pictures for going to and coming

123
00:06:47,050 --> 00:06:43,640
back down for landing that takes us all

124
00:06:48,850 --> 00:06:47,060
around the cockpit this is entering the

125
00:06:51,520 --> 00:06:48,860
space that module I'm working on the

126
00:06:53,500 --> 00:06:51,530
Express rack which is a rack that will

127
00:06:55,360 --> 00:06:53,510
be flying on our future Space Station

128
00:06:56,620 --> 00:06:55,370
missions this will allow us to

129
00:06:58,450 --> 00:06:56,630
accommodate many of the mid-deck

130
00:07:01,120 --> 00:06:58,460
experiments that we currently fly back

131
00:07:03,430 --> 00:07:01,130
in the space station and this is the

132
00:07:06,250 --> 00:07:03,440
first flight of a track and we have a

133
00:07:08,260 --> 00:07:06,260
number of experiments two of them days

134
00:07:11,200 --> 00:07:08,270
which is a physics of hard spheres and

135
00:07:12,610 --> 00:07:11,210
Astro p GPA which is a plant growth

136
00:07:20,530 --> 00:07:12,620
experiment like a little mini greenhouse

137
00:07:24,920 --> 00:07:23,300
okay what i'm doing here is taking down

138
00:07:26,000 --> 00:07:24,930

some readings are as an experiment it

139
00:07:28,160 --> 00:07:26,010
measures the very low level

140
00:07:29,360 --> 00:07:28,170
accelerations on board now I'm moving

141
00:07:31,610 --> 00:07:29,370
over to the droplet combustion

142
00:07:33,950 --> 00:07:31,620
experiment we use this experiment to

143
00:07:36,860 --> 00:07:33,960
study combustion how things burn in this

144
00:07:38,210 --> 00:07:36,870
case heptane fuel droplets because the

145
00:07:40,310 --> 00:07:38,220
combustion of liquid filled is very

146
00:07:45,440 --> 00:07:40,320
important for our economy and for

147
00:07:47,440 --> 00:07:45,450
pollution in this country important part

148
00:07:50,930 --> 00:07:47,450
of our daily routine up here is staying

149
00:07:52,850 --> 00:07:50,940
exercising we each of us get to ride for

150
00:07:55,790 --> 00:07:52,860
about maybe half an hour a day on the

151
00:07:57,440 --> 00:07:55,800
bike and at 17,000 miles an hour that

152
00:08:00,200 --> 00:07:57,450
lets us go maybe eight thousand miles of

153
00:08:02,710 --> 00:08:00,210
cuddling on the bike Here I am done in

154
00:08:05,990 --> 00:08:02,720
the mid-deck working on a stroke p GBA

155
00:08:08,960 --> 00:08:06,000
the we have a number of plaster bird

156
00:08:10,910 --> 00:08:08,970
species of plants growing inside a

157
00:08:12,740 --> 00:08:10,920
decotis GBA one of my duties every day

158
00:08:14,360 --> 00:08:12,750
is to take video of these plants

159
00:08:16,490 --> 00:08:14,370
actually growing up from day to day we

160
00:08:18,350 --> 00:08:16,500
can actually tell how they are growing

161
00:08:20,530 --> 00:08:18,360
in space and how their growth different

162
00:08:23,690 --> 00:08:20,540
differs perhaps than what we see on her

163
00:08:27,200 --> 00:08:23,700

what a mad dog mentioned about after a

164
00:08:29,990 --> 00:08:27,210
PCB oil here we are we're removing it

165
00:08:32,570 --> 00:08:30,000
stops a big deck which is part of the

166
00:08:34,940 --> 00:08:32,580
orbiter and we're going to take it back

167
00:08:37,580 --> 00:08:34,950
through the tunnel into the space lab

168
00:08:39,409 --> 00:08:37,590
and mount it on the Express rack here

169
00:08:42,020 --> 00:08:39,419
you see is coming through the tunnel

170
00:08:45,290 --> 00:08:42,030
we're now in the space lab and we're

171
00:08:47,300 --> 00:08:45,300
going to bound it into the express rat

172
00:08:49,040 --> 00:08:47,310
which dunno I explained to you with the

173
00:08:51,500 --> 00:08:49,050
right that we're going to fly on Space

174
00:08:53,480 --> 00:08:51,510
Station this is it one of the most

175
00:08:56,090 --> 00:08:53,490
important things we're doing on orbit

176
00:08:58,070 --> 00:08:56,100
because it's getting us ready for space

177
00:09:00,320 --> 00:08:58,080
station we're getting to try out this

178
00:09:02,240 --> 00:09:00,330
hardware for the first time and if

179
00:09:11,690 --> 00:09:02,250
there's any problems with the hardware

180
00:09:16,890 --> 00:09:14,940
okay we got that get that quiz and we're

181
00:09:20,220 --> 00:09:16,900
just gathered up here on the on the

182
00:09:22,560 --> 00:09:20,230
flight deck is accrued to a celebration

183
00:09:24,240 --> 00:09:22,570
of our nation's birthday tomorrow will

184
00:09:26,790 --> 00:09:24,250
be July 4th and we know that everybody

185
00:09:28,320 --> 00:09:26,800
around the country will largely be taken

186
00:09:30,930 --> 00:09:28,330
the day off it leads us somewhere at

187
00:09:32,790 --> 00:09:30,940
other recognizing the importance of this

188
00:09:34,710 --> 00:09:32,800

day and I in our country's history and

189
00:09:38,370 --> 00:09:34,720
and we recognize just how lucky we are

190
00:09:39,900 --> 00:09:38,380
due to be Americans maybe even more so

191
00:09:42,240 --> 00:09:39,910
because we're not in the country right

192
00:09:44,220 --> 00:09:42,250
now we're orbiting 185 miles above the

193
00:09:45,810 --> 00:09:44,230
surface of the earth but you know we're

194
00:09:47,430 --> 00:09:45,820
not the only Americans through out of

195
00:09:49,440 --> 00:09:47,440
the country on this fourth of July their

196
00:09:51,510 --> 00:09:49,450
military members foreign service members

197
00:09:53,220 --> 00:09:51,520
number of Americans throughout the world

198
00:09:56,100 --> 00:09:53,230
serving their country to country in a

199
00:09:58,230 --> 00:09:56,110
number of different ways we also want to

200
00:10:00,660 --> 00:09:58,240
mention that that's right Mike's in

201
00:10:02,250 --> 00:10:00,670
space Mike full orbiting in mirror and

202
00:10:03,750 --> 00:10:02,260
our hearts are with him our hearts and

203
00:10:04,830 --> 00:10:03,760
minds are with him and we know he's in a

204
00:10:08,340 --> 00:10:04,840
great adventure and he's certainly

205
00:10:11,880 --> 00:10:08,350
serving his country also so to sum it up

206
00:10:20,130 --> 00:10:11,890
from the crew of MTX 94 and for all

207
00:10:21,450 --> 00:10:20,140
Americans around the world okay you said

208
00:10:23,640 --> 00:10:21,460
that what you should be looking at now

209
00:10:26,870 --> 00:10:23,650
is on the mid-deck this is a procedure

210
00:10:30,630 --> 00:10:26,880
that we use to remove the locker tool

211
00:10:35,150 --> 00:10:30,640
what we did was tighten the tool first

212
00:10:41,820 --> 00:10:35,160
and then apply the first to pry bar and

213
00:10:48,660 --> 00:10:41,830

it actually broke off and you can you

214
00:10:49,980 --> 00:10:48,670
can see this piece here Susan's going to

215
00:10:53,310 --> 00:10:49,990
go in and show you the back of the

216
00:10:56,910 --> 00:10:53,320
locker we think that's mechanism still

217
00:10:59,400 --> 00:10:56,920
works spying and that the locker screw

218
00:11:02,640 --> 00:10:59,410
will work and it's the house and it's

219
00:11:07,620 --> 00:11:02,650
broken on we're not sure when the

220
00:11:12,690 --> 00:11:07,630
housing broke off practice earlier

221
00:11:15,470 --> 00:11:12,700
before we did this procedure or in

222
00:11:17,910 --> 00:11:15,480
between Greg extra got in there with a

223
00:11:23,909 --> 00:11:17,920
vice grip and we think maybe that was

224
00:11:28,599 --> 00:11:26,109
okay we're getting a real clear view as

225
00:11:31,419 --> 00:11:28,609
we understand it the screw is properly

226
00:11:33,759 --> 00:11:31,429
in place the housing that was on to

227
00:11:36,969 --> 00:11:33,769
retain it has come loose but otherwise

228
00:11:46,179 --> 00:11:36,979
everything is working all right yeah

229
00:11:48,969 --> 00:11:46,189
that's how we read it and the image is

230
00:11:51,039 --> 00:11:48,979
there's a robot like it has a lot of

231
00:11:53,919 --> 00:11:51,049
birds on it like it's definitely worn