



1
00:00:13,990 --> 00:00:10,070
good morning endeavor and houston is

2
00:00:18,710 --> 00:00:15,669
hi this is mike drake at the university

3
00:00:20,790 --> 00:00:18,720
of arizona can you hear me

4
00:00:23,349 --> 00:00:20,800
yeah mike we got you loud and clear

5
00:00:24,630 --> 00:00:23,359
welcome aboard we're on board the

6
00:00:30,790 --> 00:00:24,640
japanese

7
00:00:33,670 --> 00:00:32,150
well as you can hear there's a lot of

8
00:00:35,510 --> 00:00:33,680
applause in the room

9
00:00:37,350 --> 00:00:35,520
um we have a lot of different people

10
00:00:40,630 --> 00:00:37,360
here today

11
00:00:42,790 --> 00:00:40,640
we have staffers and friends from your

12
00:00:44,869 --> 00:00:42,800
wife congressman gabby gifford's office

13
00:00:46,229 --> 00:00:44,879

who are with us we have a number of

14

00:00:47,990 --> 00:00:46,239

first responders from the fire

15

00:00:48,790 --> 00:00:48,000

department that are with us

16

00:00:50,470 --> 00:00:48,800

uh

17

00:00:52,389 --> 00:00:50,480

most importantly for us i think is we've

18

00:00:53,750 --> 00:00:52,399

got a lot of middle school students who

19

00:00:55,110 --> 00:00:53,760

are going to be the ones asking you

20

00:00:57,590 --> 00:00:55,120

questions

21

00:00:59,270 --> 00:00:57,600

and we also have a number of of

22

00:01:00,229 --> 00:00:59,280

university of arizona space grant

23

00:01:01,990 --> 00:01:00,239

students

24

00:01:03,830 --> 00:01:02,000

which your wife gabby has been very

25

00:01:06,149 --> 00:01:03,840

strongly supportive of a great program

26

00:01:07,830 --> 00:01:06,159

at nasa let me bring up our first middle

27

00:01:09,830 --> 00:01:07,840

school student i'm going to ask her to

28

00:01:11,590 --> 00:01:09,840

say her name and ask her question

29

00:01:13,590 --> 00:01:11,600

hi my name is lena arriaga from gridley

30

00:01:14,789 --> 00:01:13,600

middle school my question is what

31

00:01:17,350 --> 00:01:14,799

feeling did you have when you first

32

00:01:19,429 --> 00:01:17,360

looked out the window

33

00:01:21,749 --> 00:01:19,439

well let me first say you know for

34

00:01:23,670 --> 00:01:21,759

everybody there welcome aboard the space

35

00:01:25,510 --> 00:01:23,680

station it's a

36

00:01:26,390 --> 00:01:25,520

great opportunity for us to have a

37

00:01:28,310 --> 00:01:26,400

chance

38

00:01:30,870 --> 00:01:28,320

to talk to the folks there back in

39

00:01:33,510 --> 00:01:30,880

tucson i know i probably know some

40

00:01:34,710 --> 00:01:33,520

people in the in the office we can't see

41

00:01:35,510 --> 00:01:34,720

you

42

00:01:37,190 --> 00:01:35,520

but

43

00:01:39,109 --> 00:01:37,200

you know it's it's nice to have the

44

00:01:41,190 --> 00:01:39,119

opportunity to do this event we just got

45

00:01:43,190 --> 00:01:41,200

up i imagine you guys are getting ready

46

00:01:45,190 --> 00:01:43,200

to go to sleep this morning

47

00:01:46,870 --> 00:01:45,200

um with rega

48

00:01:49,190 --> 00:01:46,880

or this evening with regards to your

49

00:01:51,590 --> 00:01:49,200

question though for me when i first saw

50

00:01:53,990 --> 00:01:51,600

the earth it was over 10 years ago i

51
00:01:56,310 --> 00:01:54,000
very distinctly remember it i was the

52
00:01:58,069 --> 00:01:56,320
pilot on the same space shuttle that's

53
00:02:00,069 --> 00:01:58,079
docked just a little bit to

54
00:02:03,030 --> 00:02:00,079
out that hatch and to our left space

55
00:02:05,429 --> 00:02:03,040
shuttle endeavour and at mach 15

56
00:02:07,670 --> 00:02:05,439
when you're going into orbit

57
00:02:09,589 --> 00:02:07,680
the space shuttle rolls ahead

58
00:02:11,430 --> 00:02:09,599
to heads up so it's upside down and it

59
00:02:13,350 --> 00:02:11,440
rolls heads up and i looked over my

60
00:02:15,350 --> 00:02:13,360
right shoulder out the window you could

61
00:02:16,710 --> 00:02:15,360
see this big blue planet out there and

62
00:02:18,550 --> 00:02:16,720
it's really like even though it was ten

63
00:02:21,589 --> 00:02:18,560

years ago it's like it was yesterday

64

00:02:27,990 --> 00:02:21,599

very very spectacular view it's pretty

65

00:02:32,150 --> 00:02:30,070

i'm going to add to that answer

66

00:02:34,470 --> 00:02:32,160

only because

67

00:02:35,270 --> 00:02:34,480

i experienced

68

00:02:38,070 --> 00:02:35,280

my

69

00:02:39,270 --> 00:02:38,080

first daytime liftoff about a week and a

70

00:02:42,070 --> 00:02:39,280

half ago

71

00:02:43,910 --> 00:02:42,080

and to my left was commander kelly

72

00:02:46,630 --> 00:02:43,920

and i was the pilot in the right seat

73

00:02:47,670 --> 00:02:46,640

just like mark was recalling from 10

74

00:02:51,509 --> 00:02:47,680

years ago

75

00:02:54,070 --> 00:02:51,519

it was at night and so

76
00:02:55,110 --> 00:02:54,080
this past launch was my first day launch

77
00:02:57,430 --> 00:02:55,120
as well

78
00:02:59,430 --> 00:02:57,440
and looking over my right shoulder i was

79
00:03:00,470 --> 00:02:59,440
amazed at how

80
00:03:03,589 --> 00:03:00,480
the

81
00:03:05,270 --> 00:03:03,599
atlantic ocean accelerated by

82
00:03:07,270 --> 00:03:05,280
i do recall looking out the window and

83
00:03:09,030 --> 00:03:07,280
mark said focus

84
00:03:11,509 --> 00:03:09,040
because as the pilot i'm supposed to

85
00:03:13,350 --> 00:03:11,519
focus on the engines and other systems

86
00:03:14,710 --> 00:03:13,360
but i was amazed at what it looked like

87
00:03:16,550 --> 00:03:14,720
out the window so i just wanted to share

88
00:03:18,309 --> 00:03:16,560

that with you

89

00:03:21,030 --> 00:03:18,319

in station houston on space round two

90

00:03:25,030 --> 00:03:21,040

for mike we wanted to congratulate you

91

00:03:28,390 --> 00:03:25,040

on breaking the duration record 377 days

92

00:03:29,910 --> 00:03:28,400

and counting our hearty congratulations

93

00:03:32,789 --> 00:03:29,920

thanks lucia and

94

00:03:34,550 --> 00:03:32,799

thanks to all the people i've phone with

95

00:03:36,390 --> 00:03:34,560

and all the folks have

96

00:03:38,949 --> 00:03:36,400

supported us from the grounds it's been

97

00:03:40,789 --> 00:03:38,959

a great ride but honestly i hope this

98

00:03:42,070 --> 00:03:40,799

record that we said is going to get

99

00:03:44,070 --> 00:03:42,080

broken by

100

00:03:45,110 --> 00:03:44,080

future people and this will be

101
00:03:46,869 --> 00:03:45,120

just a

102
00:03:49,430 --> 00:03:46,879

i guess a ripple in the wind of uh

103
00:03:51,190 --> 00:03:49,440

humans conquering space so uh

104
00:03:53,990 --> 00:03:51,200

for for the moment though i'm gonna

105
00:03:56,070 --> 00:03:54,000

enjoy it thanks for congratulations

106
00:04:00,070 --> 00:03:56,080

and it's been a real joy and we also

107
00:04:04,949 --> 00:04:01,670

lucia just so you know mike's plan to

108
00:04:09,190 --> 00:04:06,869

good deal

109
00:04:11,750 --> 00:04:09,200

so hey guys so what a bunch of space

110
00:04:15,190 --> 00:04:11,760

walkers do uh after all the space walks

111
00:04:19,590 --> 00:04:17,509

what's this this is a carbon dioxide

112
00:04:21,110 --> 00:04:19,600

removal assembly

113
00:04:23,350 --> 00:04:21,120

looks like a truck engine and we're

114

00:04:25,590 --> 00:04:23,360

taking it up completely apart to change

115

00:04:27,430 --> 00:04:25,600

out that bed in there in the middle

116

00:04:29,270 --> 00:04:27,440

right a little bit everything's gonna

117

00:04:32,310 --> 00:04:29,280

come off and everything's gonna go back

118

00:04:34,150 --> 00:04:32,320

on no problem it's a full day job but uh

119

00:04:35,749 --> 00:04:34,160

we can handle it it looks like something

120

00:04:37,510 --> 00:04:35,759

that a bunch of guys who've been on the

121

00:04:38,390 --> 00:04:37,520

space station a long time would know how

122

00:04:41,590 --> 00:04:38,400

to do

123

00:04:45,030 --> 00:04:43,030

so how long you've been working on this

124

00:04:46,950 --> 00:04:45,040

thing a couple hours yeah i know you

125

00:04:49,350 --> 00:04:46,960

guys been hiding in here but hey for

126

00:04:51,189 --> 00:04:49,360

those of you watching nasa tv if you fix

127

00:04:53,749 --> 00:04:51,199

things at home anything like fixing your

128

00:04:55,110 --> 00:04:53,759

own furnace working on your own car you

129

00:04:56,870 --> 00:04:55,120

know any little thing that you any

130

00:04:58,469 --> 00:04:56,880

maintenance kind of work you do at home

131

00:05:00,550 --> 00:04:58,479

is good space flight training that's

132

00:05:01,670 --> 00:05:00,560

true absolutely

133

00:05:03,350 --> 00:05:01,680

all right

134

00:05:05,430 --> 00:05:03,360

hey there's one other thing in here that

135

00:05:06,950 --> 00:05:05,440

i noted there's uh isn't there like an

136

00:05:10,550 --> 00:05:06,960

experiment over here that's like really

137

00:05:13,590 --> 00:05:10,560

fragile that's called be cat and it's uh

138

00:05:16,390 --> 00:05:13,600

binary colloids colloids

139

00:05:18,950 --> 00:05:16,400

basically it's looking at how colloidal

140

00:05:25,510 --> 00:05:18,960

particles in a fluid

141

00:05:28,230 --> 00:05:25,520

separate and uh it's over a long period

142

00:05:29,990 --> 00:05:28,240

of time in zero g and and you see a

143

00:05:31,670 --> 00:05:30,000

camera there set uh set up to take

144

00:05:33,110 --> 00:05:31,680

special pictures of that

145

00:05:34,150 --> 00:05:33,120

it's uh it's been going on the space

146

00:05:35,749 --> 00:05:34,160

station for a long time and they're

147

00:05:37,510 --> 00:05:35,759

learning a lot about how fluids behave

148

00:05:40,150 --> 00:05:37,520

in space and that's a that's a really

149

00:05:42,150 --> 00:05:40,160

neat experiment tell you what uh tez has

150

00:05:43,909 --> 00:05:42,160

a couple phds and you know why and

151
00:05:47,590 --> 00:05:43,919
understand stuff like that and then

152
00:05:50,230 --> 00:05:47,600
looking up here here we see the uh jlp

153
00:05:53,189 --> 00:05:50,240
wanted by another can do crew oh yeah

154
00:05:54,390 --> 00:05:53,199
can do crew yeah you betcha um what's

155
00:05:56,629 --> 00:05:54,400
interesting right here is we've done a

156
00:05:58,309 --> 00:05:56,639
lot of our pr shots on at this

157
00:06:00,710 --> 00:05:58,319
particular location

158
00:06:02,469 --> 00:06:00,720
and that's what we kind of hold our feet

159
00:06:04,550 --> 00:06:02,479
down with these little uh

160
00:06:08,150 --> 00:06:04,560
foot restraints what's interesting

161
00:06:10,550 --> 00:06:08,160
though is they're located not exactly

162
00:06:13,189 --> 00:06:10,560
aligned with the hatch they're actually

163
00:06:15,430 --> 00:06:13,199

pretty far back and so if you just jump

164

00:06:17,350 --> 00:06:15,440

straight up you might hit that hatch

165

00:06:19,270 --> 00:06:17,360

right there i think we might have seen

166

00:06:20,710 --> 00:06:19,280

that earlier did that happen to you but

167

00:06:22,870 --> 00:06:20,720

yeah it did

168

00:06:25,430 --> 00:06:22,880

all right guys show me a jump show me a