



1
00:00:05,510 --> 00:00:02,830

just

2
00:00:07,349 --> 00:00:05,520

remember that you're standing on a

3
00:00:10,709 --> 00:00:07,359

planet that's evolving

4
00:00:12,470 --> 00:00:10,719

revolving at 900 miles an hour

5
00:00:17,990 --> 00:00:12,480

good morning endeavor and welcome to

6
00:00:21,910 --> 00:00:20,070

a really cool song you know it kind of

7
00:00:25,109 --> 00:00:21,920

gives you a sense of

8
00:00:28,070 --> 00:00:25,119

how huge our universe is and

9
00:00:31,669 --> 00:00:28,080

and how much we have ahead of us

10
00:00:33,190 --> 00:00:31,679

in exploring it

11
00:00:34,790 --> 00:00:33,200

here's a view from one of the windows in

12
00:00:36,150 --> 00:00:34,800

the cupola

13
00:00:38,709 --> 00:00:36,160

what you're looking at here is a

14

00:00:40,630 --> 00:00:38,719

progress vehicle that's the russian

15

00:00:42,229 --> 00:00:40,640

cargo vehicle it's a fully automated

16

00:00:44,549 --> 00:00:42,239

rounded one docking

17

00:00:47,750 --> 00:00:44,559

and then burns up an entry uh cargo

18

00:00:49,670 --> 00:00:47,760

vehicle um there's uh you can back up uh

19

00:00:51,270 --> 00:00:49,680

manual flight from the service module

20

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

and the service module the command and

21

00:00:54,549 --> 00:00:52,800

control center for the russian segment

22

00:00:56,869 --> 00:00:54,559

is back there

23

00:00:59,029 --> 00:00:56,879

and then behind that is uh is the

24

00:01:00,790 --> 00:00:59,039

european atv automated transfer vehicle

25

00:01:02,790 --> 00:01:00,800

it's the one with the solar panel that's

26

00:01:04,390 --> 00:01:02,800

going up at an angle there

27

00:01:06,230 --> 00:01:04,400

the solar panel is extending up to your

28

00:01:07,990 --> 00:01:06,240

left there that's this those are panels

29

00:01:09,190 --> 00:01:08,000

for the service module

30

00:01:11,270 --> 00:01:09,200

and then the ones that are folded up

31

00:01:13,429 --> 00:01:11,280

over here those are on the fgb the

32

00:01:15,109 --> 00:01:13,439

russian cargo block

33

00:01:17,190 --> 00:01:15,119

that was the first part of the space

34

00:01:20,149 --> 00:01:17,200

station that that ever flew

35

00:01:22,630 --> 00:01:20,159

and what you see here on top of the

36

00:01:24,870 --> 00:01:22,640

fgb is a new russian module it's a

37

00:01:27,590 --> 00:01:24,880

research module

38

00:01:29,749 --> 00:01:27,600

and uh below the progress is called the

39

00:01:30,950 --> 00:01:29,759

docking compartment or soidine it's you

40

00:01:32,550 --> 00:01:30,960

can see there's a little hatch on it

41

00:01:34,390 --> 00:01:32,560

with a window there's one on the other

42

00:01:36,789 --> 00:01:34,400

side as well and they do their

43

00:01:39,749 --> 00:01:36,799

spacewalks from that module and so this

44

00:01:41,350 --> 00:01:39,759

is a module that used to fit inside

45

00:01:43,350 --> 00:01:41,360

the we had many of these that flew

46

00:01:44,870 --> 00:01:43,360

inside the shuttle cargo bay and brought

47

00:01:46,630 --> 00:01:44,880

up the logistics with it and this one

48

00:01:48,310 --> 00:01:46,640

was modified to stay here permanently so

49

00:01:50,630 --> 00:01:48,320

it's a very nice space and we've been

50

00:01:52,950 --> 00:01:50,640

using it for our eva preparations and

51
00:01:55,270 --> 00:01:52,960
it's a lot of cargo in there it's a very

52
00:01:58,550 --> 00:01:55,280
nice space to have you're looking at the

53
00:02:00,469 --> 00:01:58,560
us laboratory there attached to it is

54
00:02:01,749 --> 00:02:00,479
dexter the robot

55
00:02:02,870 --> 00:02:01,759
from canada

56
00:02:05,190 --> 00:02:02,880
it's uh

57
00:02:06,950 --> 00:02:05,200
it's also called spdm special purpose

58
00:02:09,669 --> 00:02:06,960
dextrous and manipulator it's got two

59
00:02:11,670 --> 00:02:09,679
arms and it'll be able to do uh

60
00:02:13,270 --> 00:02:11,680
replacement tasks outside the station

61
00:02:14,070 --> 00:02:13,280
you can see a couple of things attached

62
00:02:15,430 --> 00:02:14,080
to it

63
00:02:17,589 --> 00:02:15,440

of course there's the shuttle and the

64

00:02:19,589 --> 00:02:17,599

earth behind

65

00:02:21,910 --> 00:02:19,599

very beautiful

66

00:02:22,710 --> 00:02:21,920

attached to the space station and a very

67

00:02:24,790 --> 00:02:22,720

big

68

00:02:26,390 --> 00:02:24,800

component of it when attached

69

00:02:28,710 --> 00:02:26,400

and if you look across on the other side

70

00:02:31,430 --> 00:02:28,720

you see an antenna there that's a uhf

71

00:02:34,229 --> 00:02:31,440

antenna and beyond it is uh columbus the

72

00:02:35,830 --> 00:02:34,239

european research module

73

00:02:38,390 --> 00:02:35,840

and then coming out the other side is

74

00:02:40,869 --> 00:02:38,400

the gem the japanese research module

75

00:02:42,949 --> 00:02:40,879

and in front of that

76

00:02:44,630 --> 00:02:42,959

is the jeff the japanese exposed

77

00:02:46,949 --> 00:02:44,640

facility where a lot of research

78

00:02:49,270 --> 00:02:46,959

experiments are are conducted and

79

00:02:51,030 --> 00:02:49,280

there's a robotic arm sticking up there

80

00:02:53,589 --> 00:02:51,040

you can see just the end of it

81

00:02:55,270 --> 00:02:53,599

and that arm can actually move things in

82

00:02:57,270 --> 00:02:55,280

and out of an airlock at that end of the

83

00:02:58,790 --> 00:02:57,280

japanese module

84

00:03:00,550 --> 00:02:58,800

and turning a little bit further now you

85

00:03:01,830 --> 00:03:00,560

can see part of the truss

86

00:03:04,630 --> 00:03:01,840

that's one of the

87

00:03:07,750 --> 00:03:04,640

logistics carriers

88

00:03:08,949 --> 00:03:07,760

elc-1 has some spare parts for the space

89

00:03:11,830 --> 00:03:08,959

station

90

00:03:13,670 --> 00:03:11,840

we added elc3 which is on the top side

91

00:03:16,149 --> 00:03:13,680

during this mission and you see the

92

00:03:19,030 --> 00:03:16,159

beautiful solar panels they're

93

00:03:21,270 --> 00:03:19,040

240 feet from tip to tip

94

00:03:22,790 --> 00:03:21,280

extending out one side

95

00:03:24,470 --> 00:03:22,800

and um

96

00:03:27,110 --> 00:03:24,480

coming further around

97

00:03:28,949 --> 00:03:27,120

see we're coming back around

98

00:03:30,710 --> 00:03:28,959

to the russian side

99

00:03:32,550 --> 00:03:30,720

so there's a panoramic view from the

100

00:03:35,430 --> 00:03:32,560

cupola absolutely beautiful and if i

101
00:03:35,440 --> 00:03:40,470
get to see a view

102
00:03:44,070 --> 00:03:42,229
of the earth straight down that's why it

103
00:03:46,470 --> 00:03:44,080
takes three of us to move it tell me

104
00:03:49,190 --> 00:03:46,480
what you've got it is the carbon dioxide

105
00:03:51,350 --> 00:03:49,200
removal assembly and we brought up a new

106
00:03:53,350 --> 00:03:51,360
bed to scrub carbon dioxide from the

107
00:03:54,789 --> 00:03:53,360
atmosphere and we installed it

108
00:03:57,910 --> 00:03:54,799
we had to take the thing completely

109
00:03:59,509 --> 00:03:57,920
apart put it all back together again

110
00:04:01,910 --> 00:03:59,519
why are we seeing it right now in the

111
00:04:03,589 --> 00:04:01,920
middle of the module

112
00:04:04,789 --> 00:04:03,599
because we have to move it from where we

113
00:04:07,030 --> 00:04:04,799

did the work to where we're going to

114

00:04:09,429 --> 00:04:07,040

install it back in the rack where is it

115

00:04:11,030 --> 00:04:09,439

going

116

00:04:13,750 --> 00:04:11,040

it goes into node three is this the

117

00:04:15,589 --> 00:04:13,760

inquisition yeah no three well right now

118

00:04:39,510 --> 00:04:15,599

we're in node two so we've got long ways

119

00:04:39,520 --> 00:04:49,830

i'm gonna get four bricks

120

00:04:53,590 --> 00:04:50,790

all right

121

00:05:15,350 --> 00:04:53,600

then on four three and four nope nope

122

00:05:15,360 --> 00:05:18,150

exercise

123

00:05:23,670 --> 00:05:21,189

we are leaving today

124

00:05:25,670 --> 00:05:23,680

in a few hours will be unlocked

125

00:05:28,390 --> 00:05:25,680

we won't put all

126

00:05:30,950 --> 00:05:28,400

everything back in order back in place

127

00:05:34,550 --> 00:05:30,960

so to leave the session better than what

128

00:05:34,560 --> 00:05:40,870

here we go

129

00:05:43,830 --> 00:05:42,150

you drinking it

130

00:05:46,550 --> 00:05:43,840

nope

131

00:05:50,790 --> 00:05:46,560

it's on your nose yep

132

00:05:50,800 --> 00:05:54,469

and

133

00:05:54,479 --> 00:05:57,830

oh yeah

134

00:06:05,189 --> 00:05:59,830

that's kind of freaky actually it's kind

135

00:06:09,430 --> 00:06:06,790

is that how you guys wash your face on

136

00:06:11,590 --> 00:06:09,440

the space station nope

137

00:06:15,270 --> 00:06:11,600

that was the first time i did that

138

00:06:20,230 --> 00:06:17,909

well box we're commemorating our

139

00:06:21,990 --> 00:06:20,240

mission and our space walks and it's a

140

00:06:24,309 --> 00:06:22,000

tradition uh after each shuttle crew

141

00:06:26,469 --> 00:06:24,319

arrives to put their uh mission sticker

142

00:06:28,710 --> 00:06:26,479

on the wall here in the airlock uh

143

00:06:30,629 --> 00:06:28,720

behind one of the uh or nearby to the

144

00:06:33,270 --> 00:06:30,639

emu's and sign it

145

00:06:34,790 --> 00:06:33,280

this is the last uh space shuttle based

146

00:06:36,950 --> 00:06:34,800

eda team

147

00:06:38,469 --> 00:06:36,960

and uh we're real we i think we can be

148

00:06:39,990 --> 00:06:38,479

proud of our accomplishments with four

149

00:06:41,990 --> 00:06:40,000

successful evas so we're just here to

150

00:06:44,790 --> 00:06:42,000

mark the occasion and uh sort of close

151
00:06:48,390 --> 00:06:44,800
out the mission here uh on space station

152
00:06:51,189 --> 00:06:48,400
hey ronnie i guess uh

153
00:06:51,990 --> 00:06:51,199
dude the cupola windows are closed

154
00:06:53,749 --> 00:06:52,000
um

155
00:06:55,189 --> 00:06:53,759
that's it isn't it yep you just heard

156
00:06:56,870 --> 00:06:55,199
the call on the big loop for attitude

157
00:06:58,150 --> 00:06:56,880
control or maneuvering

158
00:06:59,749 --> 00:06:58,160
to prepare for

159
00:07:01,430 --> 00:06:59,759
guys undocking

160
00:07:03,189 --> 00:07:01,440
unfortunately that means that the

161
00:07:06,309 --> 00:07:03,199
shutters on the coop will have to remain

162
00:07:08,070 --> 00:07:06,319
closed until after you guys leave so

163
00:07:09,749 --> 00:07:08,080

i'm sure you guys enjoyed it while you

164

00:07:12,309 --> 00:07:09,759

could but

165

00:07:13,749 --> 00:07:12,319

this beautiful view

166

00:07:19,110 --> 00:07:13,759

is being

167

00:07:26,390 --> 00:07:20,629

all right where are you in the procedure

168

00:07:26,400 --> 00:07:28,870

all right

169

00:07:32,629 --> 00:07:30,790

hey drew how's it going it's going good

170

00:07:36,230 --> 00:07:32,639

box we got the fiducial scale so we're

171

00:07:39,270 --> 00:07:36,240

in good shape that's good

172

00:07:44,070 --> 00:07:39,280

perform lyo change out for the cute card