



1  
00:00:05,510 --> 00:00:03,750  
and uh the visiting vehicle officer here

2  
00:00:08,629 --> 00:00:05,520  
in mission control reports uh that

3  
00:00:11,509 --> 00:00:08,639  
station keeping has begun

4  
00:00:13,509 --> 00:00:11,519  
this uh will be a very brief period of

5  
00:00:15,589 --> 00:00:13,519  
uh

6  
00:00:17,510 --> 00:00:15,599  
systems checks by the russian flight

7  
00:00:19,830 --> 00:00:17,520  
control team and carlyov before the

8  
00:00:21,189 --> 00:00:19,840  
command is given to initiate final

9  
00:00:24,710 --> 00:00:21,199  
approach

10  
00:00:30,710 --> 00:00:24,720  
send the command initial

11  
00:00:36,150 --> 00:00:32,870  
we confirm station keeping and we

12  
00:00:39,750 --> 00:00:36,160  
confirm that all leds are eliminated and

13  
00:00:43,910 --> 00:00:39,760

have activated the rabota or operation

14

00:00:47,190 --> 00:00:43,920

command and leds are illuminated and so

15

00:00:49,990 --> 00:00:47,200

please transition to display 44

16

00:00:53,350 --> 00:00:50,000

i am on display 44

17

00:00:56,790 --> 00:00:53,360

external and internal leds are

18

00:00:59,590 --> 00:00:56,800

illuminated copy we copy all station and

19

00:01:01,189 --> 00:00:59,600

now please deactivate the operation

20

00:01:04,549 --> 00:01:01,199

robota mode

21

00:01:07,190 --> 00:01:05,750

contact

22

00:01:08,870 --> 00:01:07,200

confirm

23

00:01:10,149 --> 00:01:08,880

reach out

24

00:01:11,350 --> 00:01:10,159

command

25

00:01:13,590 --> 00:01:11,360

and

26  
00:01:17,749 --> 00:01:13,600  
please continue monitoring the situation

27  
00:01:19,749 --> 00:01:17,759  
range is 180 meters and uh with

28  
00:01:21,910 --> 00:01:19,759  
everything uh checking out in good shape

29  
00:01:23,270 --> 00:01:21,920  
the progress has now initiated its final

30  
00:01:25,990 --> 00:01:23,280  
approach

31  
00:01:33,190 --> 00:01:26,000  
and please continue monitoring via

32  
00:01:39,350 --> 00:01:36,069  
and if you give us a go i wanted to play

33  
00:01:41,429 --> 00:01:39,360  
with the agc mode if i can

34  
00:01:43,670 --> 00:01:41,439  
definitely we're just about to tell you

35  
00:01:47,749 --> 00:01:43,680  
to use agency mode

36  
00:01:49,510 --> 00:01:47,759  
i have agency mode activated and

37  
00:01:51,590 --> 00:01:49,520  
i have

38  
00:01:53,030 --> 00:01:51,600

operation

39

00:01:54,469 --> 00:01:53,040

mode on

40

00:01:57,749 --> 00:01:54,479

copy and

41

00:01:59,030 --> 00:01:57,759

we have bypass initial and operation

42

00:02:00,069 --> 00:01:59,040

mode is

43

00:02:02,310 --> 00:02:00,079

active

44

00:02:03,350 --> 00:02:02,320

copy

45

00:02:05,990 --> 00:02:03,360

i am

46

00:02:07,109 --> 00:02:06,000

deactivating the operation mode

47

00:02:10,389 --> 00:02:07,119

copy

48

00:02:12,949 --> 00:02:10,399

just 135 meters now separating progress

49

00:02:14,949 --> 00:02:12,959

from the piers docking compartment as

50

00:02:18,229 --> 00:02:14,959

the resupply craft and the international

51  
00:02:21,350 --> 00:02:18,239  
space station enter an orbital sunset

52  
00:02:24,309 --> 00:02:21,360  
over the south pacific approaching the

53  
00:02:27,110 --> 00:02:24,319  
west coast of south america range is one

54  
00:02:29,630 --> 00:02:27,120  
two three meters and

55  
00:02:32,869 --> 00:02:29,640  
uh range rate is

56  
00:02:35,110 --> 00:02:32,879  
0.166 meters per second and we are

57  
00:02:37,910 --> 00:02:35,120  
perfectly aligned with the

58  
00:02:58,309 --> 00:02:37,920  
axis of the docking mechanism

59  
00:03:02,830 --> 00:03:00,309  
range is 100

60  
00:03:04,470 --> 00:03:02,840  
meters and range rate is

61  
00:03:06,790 --> 00:03:04,480  
0.53

62  
00:03:13,670 --> 00:03:06,800  
we are at the axis of the docking

63  
00:03:18,390 --> 00:03:16,149

aboard the zvezda service module

64

00:03:19,750 --> 00:03:18,400

cosmonauts alexei of chenin and alex

65

00:03:21,350 --> 00:03:19,760

krapochka

66

00:03:23,670 --> 00:03:21,360

are looking at the same engineering

67

00:03:26,309 --> 00:03:23,680

overlay view that you've been enjoying

68

00:03:29,670 --> 00:03:26,319

as the progress slowly but surely closes

69

00:03:31,350 --> 00:03:29,680

the final few meters for its contact and

70

00:03:32,789 --> 00:03:31,360

capture to the international space

71

00:03:35,190 --> 00:03:32,799

station now just

72

00:03:43,350 --> 00:03:35,200

83 meters separating the two craft the

73

00:03:48,390 --> 00:03:46,390

and alexa how do you see the

74

00:03:50,229 --> 00:03:48,400

docking

75

00:03:52,550 --> 00:03:50,239

interface

76

00:03:53,910 --> 00:03:52,560

it's in the shadow i don't see it

77

00:03:56,070 --> 00:03:53,920

clearly

78

00:03:57,830 --> 00:03:56,080

and

79

00:04:00,550 --> 00:03:57,840

actually we were

80

00:04:01,910 --> 00:04:00,560

about to suggest you use the agc mode

81

00:04:04,949 --> 00:04:01,920

once again

82

00:04:06,789 --> 00:04:04,959

copy i'll send the bps initial command

83

00:04:09,589 --> 00:04:06,799

and then operation

84

00:04:30,950 --> 00:04:09,599

command and then agency mode

85

00:04:34,710 --> 00:04:32,710

flight controllers at the russian

86

00:04:36,629 --> 00:04:34,720

mission control center report a smooth

87

00:04:37,670 --> 00:04:36,639

approach by the progress everything

88

00:04:45,189 --> 00:04:37,680

proceeding

89

00:04:49,590 --> 00:04:46,870

current estimate is uh that we are

90

00:04:51,270 --> 00:04:49,600

expecting docking to occur up to about

91

00:04:52,390 --> 00:04:51,280

two minutes earlier than the current

92

00:05:12,070 --> 00:04:52,400

schedule

93

00:05:17,670 --> 00:05:15,270

all right so i returned to that second

94

00:05:19,350 --> 00:05:17,680

notch with the translational hand

95

00:05:22,870 --> 00:05:19,360

controller

96

00:05:27,310 --> 00:05:22,880

we copy and the range rate is 52

97

00:05:38,230 --> 00:05:27,320

meters and range rate is

98

00:05:42,390 --> 00:05:40,310

again under current predictions we might

99

00:05:43,670 --> 00:05:42,400

lose our downlink television picture

100

00:05:44,710 --> 00:05:43,680

right before

101  
00:05:47,110 --> 00:05:44,720  
docking

102  
00:05:49,110 --> 00:05:47,120  
just 45 meters now separating progress

103  
00:05:50,870 --> 00:05:49,120  
from the piers docking compartment as it

104  
00:05:53,670 --> 00:05:50,880  
continues uh

105  
00:05:58,950 --> 00:05:53,680  
to glide in for its automated uh link up

106  
00:06:04,550 --> 00:06:01,110  
the docking mechanism has been powered

107  
00:06:11,270 --> 00:06:08,309  
a reminder at the range of 30 meters you

108  
00:06:13,430 --> 00:06:11,280  
need to activate of the

109  
00:06:15,749 --> 00:06:13,440  
rain

110  
00:06:18,629 --> 00:06:15,759  
bypass initial

111  
00:06:23,510 --> 00:06:18,639  
and um also

112  
00:06:27,590 --> 00:06:25,990  
and could you tell me what you wanted me

113  
00:06:30,230 --> 00:06:27,600

to do at the very end

114

00:06:33,590 --> 00:06:30,240

uh we wanted you to activate

115

00:06:36,870 --> 00:06:33,600

bypass initial and then abort enabled

116

00:06:41,189 --> 00:06:36,880

and then leave the uh robot operation

117

00:06:44,230 --> 00:06:41,199

mode on copy and we are at the 440 meter

118

00:06:46,830 --> 00:06:44,240

range and range rate is 0.19

119

00:06:50,790 --> 00:06:46,840

electrical crosshairs are

120

00:06:54,550 --> 00:06:50,800

misaligned with the docking interface

121

00:06:57,749 --> 00:06:54,560

for at about 0.5 degrees so the

122

00:07:08,309 --> 00:06:57,759

misalignment is about 0.5 degrees

123

00:07:14,469 --> 00:07:10,870

so now we're at 30 meters i'm sending

124

00:07:15,589 --> 00:07:14,479

people by pers initial did you think

125

00:07:18,070 --> 00:07:15,599

okay

126

00:07:20,870 --> 00:07:18,080

i'm activating the operation mode i

127

00:07:24,230 --> 00:07:20,880

confirm leds are illuminated and i'm

128

00:07:25,830 --> 00:07:24,240

sending the abort enabled command

129

00:07:31,510 --> 00:07:25,840

copy

130

00:07:31,520 --> 00:07:39,270

you're on page 24.

131

00:07:43,670 --> 00:07:41,909

and as expected we've

132

00:07:45,749 --> 00:07:43,680

temporarily passed out of range of our

133

00:07:49,189 --> 00:07:45,759

tracking and data relay satellite system

134

00:07:50,070 --> 00:07:49,199

alexey please continue reporting we see

135

00:07:53,430 --> 00:07:50,080

the

136

00:07:54,390 --> 00:07:53,440

image visually we're at 25 meters

137

00:07:57,670 --> 00:07:54,400

and

138

00:07:58,469 --> 00:07:57,680

the range rate is about 0.15 meters per

139

00:08:00,230 --> 00:07:58,479

second

140

00:08:02,230 --> 00:08:00,240

copy

141

00:08:05,430 --> 00:08:02,240

despite the loss of the television

142

00:08:08,070 --> 00:08:05,440

signal everything proceeding on track

143

00:08:10,309 --> 00:08:08,080

as the progress is just about to inch

144

00:08:13,510 --> 00:08:10,319

inside the 20 meter mark

145

00:08:14,790 --> 00:08:13,520

degrees from the crosshairs of the real

146

00:08:16,309 --> 00:08:14,800

target

147

00:08:17,350 --> 00:08:16,319

poppy

148

00:08:20,390 --> 00:08:17,360

and

149

00:08:23,430 --> 00:08:20,400

we have the

150

00:08:23,440 --> 00:08:33,110

our

151  
00:08:41,829 --> 00:08:35,430  
17 meters now separating progress from

152  
00:08:48,550 --> 00:08:44,630  
and visually the range is about

153  
00:08:50,310 --> 00:08:48,560  
15 meters so i'm about four squares away

154  
00:09:07,509 --> 00:08:50,320  
from the docking

155  
00:09:13,509 --> 00:09:10,790  
all right the size of the target is more

156  
00:09:17,829 --> 00:09:13,519  
than one square

157  
00:09:22,230 --> 00:09:19,990  
there is about one degree discrepancy

158  
00:09:24,790 --> 00:09:22,240  
between the crosshairs of the real

159  
00:09:27,829 --> 00:09:24,800  
target and the electronic

160  
00:09:32,870 --> 00:09:27,839  
electronic crosshairs and ranges 10

161  
00:09:36,949 --> 00:09:34,389  
progress

162  
00:09:38,550 --> 00:09:36,959  
ever so slowly moving in for it's a link

163  
00:09:41,509 --> 00:09:38,560

up to the piers docking compartment

164

00:09:42,630 --> 00:09:41,519

about to move inside the 10 meter mark

165

00:09:50,870 --> 00:09:42,640

here

166

00:09:57,750 --> 00:09:54,230

the size of the target is about uh two

167

00:09:59,670 --> 00:09:57,760

squares a six seven meter range

168

00:10:09,190 --> 00:09:59,680

and the crosshairs are still aligned

169

00:10:14,069 --> 00:10:11,990

there is a slight misalignment between

170

00:10:15,269 --> 00:10:14,079

the real target horizons and the

171

00:10:26,150 --> 00:10:15,279

electronic

172

00:10:33,829 --> 00:10:28,870

and the size of the target is about two

173

00:10:36,790 --> 00:10:35,590

just a few meters separating the two

174

00:10:37,990 --> 00:10:36,800

craft

175

00:10:40,310 --> 00:10:38,000

there is a

176

00:10:42,870 --> 00:10:40,320

slight misalignment of the electronic

177

00:10:46,630 --> 00:10:42,880

crosshairs where the target across here

178

00:10:49,350 --> 00:10:46,640

is it's about 0.5 degrees and range is

179

00:10:52,470 --> 00:10:49,360

about one two meters we're standing by

180

00:10:56,470 --> 00:10:52,480

for contact the crosshairs are aligned

181

00:10:56,480 --> 00:11:12,069

we are standing by for contact

182

00:11:17,829 --> 00:11:15,990

confirmed at 7 20 pm central time as the

183

00:11:19,030 --> 00:11:17,839

international space station in progress

184

00:11:22,710 --> 00:11:19,040

64

185

00:11:25,350 --> 00:11:22,720

flew 254 statute miles over chile just

186

00:11:27,269 --> 00:11:25,360

north of the capital of santiago probe