

Ф44 СБЛИЖЕНИЕ T=0-4 23:11
 ЗАВ КОН ПРИЧАЛ ЛСК ГСО 1234
 Б12 ШХ 0.017
 ДУС123 1 - ШУ 0.034
 Р 165.7 ШZ 0.122
 С1.56601 КУРС 1

γ - 14.42
 ψ 0.179
 θ - 0.47
 ψ П 1.68
 θ П - 1.69
 ρ 0.193
 ρ̇ - 0.04

φ ρ̇ 0.185 KM ΩУ 0.012 - 0.03
 ρ̇̇ - 0.03 M/C ΩZ 0.080 0.09

1
00:00:07,990 --> 00:00:05,829
start

2
00:00:16,470 --> 00:00:08,000
approach

3
00:00:16,480 --> 00:00:30,070
what's up

4
00:00:34,229 --> 00:00:32,150
at this point the soyuz in that station

5
00:00:35,510 --> 00:00:34,239
keeping period waiting for the uh go for

6
00:00:41,110 --> 00:00:35,520
final approach

7
00:00:41,120 --> 00:00:53,590
yes

8
00:01:09,270 --> 00:00:55,270
and video

9
00:01:09,280 --> 00:01:22,789
uh

10
00:01:26,310 --> 00:01:24,710
approach

11
00:01:27,830 --> 00:01:26,320
mode

12
00:01:33,109 --> 00:01:27,840
we got it

13
00:01:38,789 --> 00:01:36,950

so at 8 23 the go for final approach

14

00:01:54,710 --> 00:01:38,799

given velocity

15

00:01:58,310 --> 00:01:56,550

from the international space station on

16

00:01:59,590 --> 00:01:58,320

its final approach towards the poisk

17

00:02:04,310 --> 00:01:59,600

module

18

00:02:04,320 --> 00:02:16,949

about 160 meters away

19

00:02:20,390 --> 00:02:18,710

160

20

00:02:25,670 --> 00:02:20,400

range

21

00:02:29,110 --> 00:02:27,510

the crew started their final approach

22

00:02:31,270 --> 00:02:29,120

just about a minute or so ahead of their

23

00:02:33,830 --> 00:02:31,280

timeline so that docking might occur a

24

00:02:35,990 --> 00:02:33,840

little bit before 8 36

25

00:02:38,070 --> 00:02:36,000

but that the intended target time for

26
00:02:39,350 --> 00:02:38,080
this soyuz craft a dock to the voice

27
00:02:41,190 --> 00:02:39,360
module

28
00:02:42,869 --> 00:02:41,200
but again they are at this point on

29
00:02:45,509 --> 00:02:42,879
final approach

30
00:02:47,830 --> 00:02:45,519
the coors automated rendezvous system

31
00:02:50,390 --> 00:02:47,840
engaged

32
00:02:52,390 --> 00:02:50,400
just about five or six minutes before

33
00:02:55,350 --> 00:02:52,400
docking the coors antenna is going to be

34
00:02:56,150 --> 00:02:55,360
retract or retracted that'll come when

35
00:02:58,630 --> 00:02:56,160
the

36
00:03:28,149 --> 00:02:58,640
soyuz is roughly about 41 meters away

37
00:03:34,149 --> 00:03:29,990
a quick tally ho from

38
00:03:36,149 --> 00:03:34,159

scott kelly the nasa astronaut on board

39

00:03:39,430 --> 00:03:36,159

all three crew members veteran space

40

00:03:45,670 --> 00:03:39,440

fliers each having done at least one

41

00:03:50,470 --> 00:03:48,390

under 100 meters away now

42

00:03:52,869 --> 00:03:50,480

continuing to close in you can see poise

43

00:03:54,949 --> 00:03:52,879

right there in the center of your view

44

00:03:56,630 --> 00:03:54,959

also known as the mini research module 2

45

00:03:58,830 --> 00:03:56,640

it's the docking port that this vehicle

46

00:04:01,910 --> 00:03:58,840

is going to be attached

47

00:04:04,390 --> 00:04:01,920

to once they dock hooks will

48

00:04:05,990 --> 00:04:04,400

be able to close on both the soyuz uh

49

00:04:10,789 --> 00:04:06,000

and the uh

50

00:04:10,799 --> 00:04:17,749

85 meters

51
00:04:22,629 --> 00:04:20,150
watching the target again that range

52
00:04:24,310 --> 00:04:22,639
rates gonna continue to shrink down a

53
00:04:26,310 --> 00:04:24,320
little bit smaller and smaller as they

54
00:04:28,070 --> 00:04:26,320
close in should be around a tenth of a

55
00:04:31,670 --> 00:04:28,080
meter per second right as they're

56
00:04:31,680 --> 00:04:38,950
coming up on 75 meters away

57
00:04:46,629 --> 00:04:42,790
75 meters passing

58
00:04:56,550 --> 00:04:49,990
good view there of the soyuz tma-16m

59
00:04:56,560 --> 00:05:10,469
passing 70 meters

60
00:05:10,479 --> 00:05:15,590
65.3

61
00:05:15,600 --> 00:05:49,510
range rate

62
00:05:57,909 --> 00:05:52,469
so i see it on a civil envelope but not

63
00:06:05,590 --> 00:05:59,909

copy did you set me up

64

00:06:05,600 --> 00:06:12,309

and now below 50 meters

65

00:06:12,319 --> 00:06:29,909

and by anton

66

00:06:47,430 --> 00:06:31,510

agc mode is

67

00:06:50,950 --> 00:06:48,870

meters to second round so he's

68

00:06:53,350 --> 00:06:50,960

continuing to close in

69

00:06:55,430 --> 00:06:53,360

closing at uh under two tenths of a

70

00:06:58,790 --> 00:06:55,440

meter per second at this point just

71

00:07:09,350 --> 00:06:58,800

about to cross uh the 40 meter threshold

72

00:07:13,990 --> 00:07:11,350

another great view of the soyuz the

73

00:07:19,189 --> 00:07:14,000

station's robotic arm canada arm 2 there

74

00:07:19,199 --> 00:07:24,070

antennas

75

00:07:28,390 --> 00:07:26,790

solar erase beautiful

76
00:07:48,150 --> 00:07:28,400
getting confirmation of coors antenna

77
00:07:48,160 --> 00:08:04,950
thank you

78
00:08:08,990 --> 00:08:08,070
30 meters is the rate rate and the range

79
00:08:16,390 --> 00:08:09,000
rate

80
00:08:20,710 --> 00:08:19,189
just 25 more meters to go

81
00:08:22,869 --> 00:08:20,720
25

82
00:08:45,110 --> 00:08:22,879
meters is the range and the range rate

83
00:08:48,550 --> 00:08:46,630
range 20

84
00:09:07,670 --> 00:08:48,560
range rate

85
00:09:11,829 --> 00:09:09,990
so the rate of uh closure and the

86
00:09:13,670 --> 00:09:11,839
distance between the two vehicles now

87
00:09:14,949 --> 00:09:13,680
right at around a tenth of a meter per

88
00:09:16,790 --> 00:09:14,959

second

89
00:09:19,590 --> 00:09:16,800
coming up on just 20 meters away you can

90
00:09:25,030 --> 00:09:19,600
see poisk on the docking target there

91
00:09:30,389 --> 00:09:28,150
the target is a little bit

92
00:09:32,150 --> 00:09:30,399
far from uh

93
00:09:33,509 --> 00:09:32,160
from the center but it's within the

94
00:09:46,470 --> 00:09:33,519
limits

95
00:09:56,710 --> 00:09:49,030
so we have the alignment on enroll and

96
00:09:56,720 --> 00:10:01,110
the target is in the center

97
00:10:05,509 --> 00:10:03,350
so the crosshairs are

98
00:10:09,509 --> 00:10:05,519
stable

99
00:10:12,870 --> 00:10:10,710
copy so

100
00:10:31,030 --> 00:10:12,880
0.11 is the

101
00:10:35,269 --> 00:10:32,870
about to get up close and personal with

102
00:10:37,670 --> 00:10:35,279
the poisk module just about 10 meters

103
00:10:37,680 --> 00:10:51,910
we are observing the contact

104
00:10:51,920 --> 00:11:12,069
confirmation under 10 meters away fine

105
00:11:12,079 --> 00:11:22,230
coming up on five meters

106
00:11:28,230 --> 00:11:25,590
so there is mechanical contact

107
00:11:30,470 --> 00:11:28,240
everything is fine okay the guys

108
00:11:33,750 --> 00:11:30,480
congratulations and contact and capture

109
00:11:37,910 --> 00:11:33,760
confirmed the one-year crew has arrived

110
00:11:40,550 --> 00:11:37,920
and uh coming at 8 33 p.m central time 8

111
00:11:43,110 --> 00:11:40,560
33 and 41 seconds if you want to get

112
00:11:44,110 --> 00:11:43,120
exact while both vehicles were flying

113
00:11:48,389 --> 00:11:44,120

just about