1
00:00:07,909 --> 00:00:07,030
t minus seven

2
00:00:08,790 --> 00:00:07,919
six

3
00:00:09,589 --> 00:00:08,800
five

4
00:00:10,629 --> 00:00:09,599
four

5
00:00:11,509 --> 00:00:10,639
three

6
00:00:20,550 --> 00:00:11,519
two

7
00:00:24,630 --> 00:00:22,230
and liftoff

8
00:00:26,230 --> 00:00:24,640
liftoff of the 48th progress resupply

9
00:00:35,910 --> 00:00:26,240
ship on a six-hour sprint to the

10
00:00:47,110 --> 00:00:37,510
the soyuz booster lighting up the

11
00:00:50,549 --> 00:00:48,869
first and second stage thrusters

12
00:00:52,069 --> 00:00:50,559
operating normally according to reports

13
00:01:01,590 --> 00:00:52,079

from the russian mission control center

14
00:01:01,600 --> 00:01:04,710
the vehicle is stable

15
00:01:04,720 --> 00:01:10,550
good pitch program

16
00:01:14,710 --> 00:01:12,469
at the time of uh liftoff the

17
00:01:17,270 --> 00:01:14,720
international space station was two

18
00:01:22,870 --> 00:01:17,280
thousand three hundred sixty miles ahead

19
00:01:22,880 --> 00:01:30,230
pitch role in your program all nominal

20
00:01:33,749 --> 00:01:32,230
70 seconds into the flight the first

21
00:01:36,390 --> 00:01:33,759
stage will

22
00:01:38,870 --> 00:01:36,400
continue operating for about a minute 58

23
00:01:40,789 --> 00:01:38,880
seconds

24
00:01:42,389 --> 00:01:40,799
the first stage then will shut down and

25
00:01:43,590 --> 00:01:42,399
separate along with four strap-on

26
00:01:46,550 --> 00:01:43,600
boosters

27
00:01:49,030 --> 00:01:46,560
at an altitude of 30 miles

28
00:01:51,030 --> 00:01:49,040
while the vehicle is downrange

29
00:01:55,109 --> 00:01:51,040
at about 73 miles from the baikonur

30
00:01:58,709 --> 00:01:57,350
and third stage shutdown now confirmed

31
00:02:01,429 --> 00:01:58,719
by flight controllers of the russian

32
00:02:07,749 --> 00:02:01,439
mission control center

33
00:02:12,790 --> 00:02:10,309
the vehicle now is separated progress 48

34
00:02:14,949 --> 00:02:12,800
in its preliminary orbit as we stand by

35
00:02:25,110 --> 00:02:14,959
for confirmation of navigational antenna

36
00:02:29,350 --> 00:02:27,510
and now confirmation that all antennas

37
00:02:30,949 --> 00:02:29,360
and solar arrays have been deployed

38
00:02:31,830 --> 00:02:30,959

progress 48

39
00:02:36,070 --> 00:02:31,840
has

40
00:02:43,030 --> 00:02:36,080
international space station following a

41
00:02:47,670 --> 00:02:44,869
this is mission control houston you're

42
00:02:49,430 --> 00:02:47,680
looking at a view of the progress 48

43
00:02:51,430 --> 00:02:49,440
fresh off the launch pad of the baikonur

44
00:02:53,030 --> 00:02:51,440
cosmodrome in kazakhstan

45
00:02:55,430 --> 00:02:53,040
having

46
00:02:58,869 --> 00:02:55,440
accelerated through

47
00:03:00,790 --> 00:02:58,879
a compact series of rendezvous maneuvers

48
00:03:02,390 --> 00:03:00,800
and now in the fly around of the

49
00:03:05,070 --> 00:03:02,400
international space station the fly

50
00:03:07,910 --> 00:03:05,080
around has begun at a distance of just

51
00:03:09,030 --> 00:03:07,920
290 meters away from the piers docking

52
00:03:12,070 --> 00:03:09,040
compartment

53
00:03:13,910 --> 00:03:12,080
this fly around will once again enable

54
00:03:15,589 --> 00:03:13,920
the progress through its automated

55
00:03:17,750 --> 00:03:15,599
computer program

56
00:03:20,390 --> 00:03:17,760
to precisely align its forward docking

57
00:03:23,190 --> 00:03:20,400
probe with the piers docking port

58
00:03:26,070 --> 00:03:23,200
enabling a period of just a few minutes

59
00:03:27,830 --> 00:03:26,080
of station keeping in which the approach

60
00:03:29,910 --> 00:03:27,840
will be zeroed out

61
00:03:32,470 --> 00:03:29,920
enabling russian flight controllers to

62
00:03:34,149 --> 00:03:32,480
assess its alignment to the piers

63
00:03:36,710 --> 00:03:34,159

docking compartment before the command

64
00:03:38,710 --> 00:03:36,720
is given for the final uh approach for

65
00:03:39,390 --> 00:03:38,720
docking of course

66
00:03:41,430 --> 00:03:39,400
uh

67
00:03:45,430 --> 00:03:41,440
260 meters

68
00:03:48,869 --> 00:03:45,440
zero decimal 44 is the rate this station

69
00:03:50,550 --> 00:03:48,879
is in a very visible very clear you can

70
00:03:54,070 --> 00:03:50,560
we can see the dc

71
00:03:55,750 --> 00:03:54,080
all modules okay copy

72
00:03:58,309 --> 00:03:55,760
17 meters

73
00:04:01,030 --> 00:03:58,319
0 3 52

74
00:04:04,869 --> 00:04:01,040
73

75
00:04:08,390 --> 00:04:04,879
and the crosshairs are matching so the

76
00:04:13,589 --> 00:04:10,789
just 70 meters now separating the two

77
00:04:15,429 --> 00:04:13,599
vehicles closing at a rate of 0.3 meters

78
00:04:22,629 --> 00:04:15,439
per second everything

79
00:04:26,870 --> 00:04:24,950
just about 30 meters separating the two

80
00:04:31,510 --> 00:04:26,880
craft

81
00:04:33,350 --> 00:04:31,520
progress uh will disappear uh behind uh

82
00:04:36,469 --> 00:04:33,360
the kibo module that you're seeing in

83
00:04:38,790 --> 00:04:36,479
the foreground of your picture

84
00:04:40,790 --> 00:04:38,800
and we will we're getting ready to send

85
00:04:53,749 --> 00:04:40,800
the command by players

86
00:04:53,759 --> 00:04:58,950
and also break away enabled copy

87
00:04:58,960 --> 00:05:12,550
can we use the agc mode yes you can

88
00:05:17,189 --> 00:05:14,230

30 meters now separating the two

89
00:05:19,110 --> 00:05:17,199
spacecraft progress uh closing at a

90
00:05:22,550 --> 00:05:19,120
perfect rate of one tenth of a meter per

91
00:05:27,590 --> 00:05:24,550
once again this uh

92
00:05:29,110 --> 00:05:27,600
un-piloted vehicle will stay docked to

93
00:05:31,990 --> 00:05:29,120
the piers docking compartment until

94
00:05:35,110 --> 00:05:32,000
christmas day when it will uh undock and

95
00:05:38,150 --> 00:05:35,120
make room for yet another craft the next

96
00:05:39,909 --> 00:05:38,160
progress vehicle progress 49 is

97
00:05:42,230 --> 00:05:39,919
scheduled to be launched from the

98
00:05:44,790 --> 00:05:42,240
baikonur cosmodrome on november 1st and

99
00:05:47,350 --> 00:05:44,800
docked to the aft port of the zvezda

100
00:05:49,510 --> 00:05:47,360
service module currently occupied by the

101
00:06:02,710 --> 00:05:49,520
eduardo amaldi automated transfer

102
00:06:07,189 --> 00:06:05,110
so the target is shifted a little bit to

103
00:06:10,309 --> 00:06:07,199
the right but everything is within the

104
00:06:15,110 --> 00:06:10,319
limits the vehicle is moving very

105
00:06:19,350 --> 00:06:16,550
we have now

106
00:06:21,670 --> 00:06:19,360
now it is on

107
00:06:24,070 --> 00:06:21,680
great views of the progress 48 which

108
00:06:26,070 --> 00:06:24,080
just a few hours ago sat atop the third

109
00:06:28,550 --> 00:06:26,080
stage of a soyuz booster

110
00:06:31,909 --> 00:06:28,560
on gagarin's launch pad at the baikonur

111
00:06:33,670 --> 00:06:31,919
cosmodrome in kazakhstan

112
00:06:34,950 --> 00:06:33,680
now about to complete an accelerated

113
00:06:38,390 --> 00:06:34,960

rendezvous and docking to the

114
00:06:46,710 --> 00:06:42,150
17 meters 0.12 just 17 meters separating

115
00:06:50,550 --> 00:06:48,629
progress 48 and the international space

116
00:06:53,350 --> 00:06:50,560
station traveling from southwest to

117
00:07:14,390 --> 00:06:53,360
northeast across the pacific ocean west

118
00:07:20,710 --> 00:07:17,749
you are defining the uh range visually

119
00:07:26,390 --> 00:07:24,390
um visually and also using the

120
00:07:36,309 --> 00:07:26,400
ruler we have a special rule it's very

121
00:07:41,270 --> 00:07:38,390
and progress now less than 10 meters

122
00:07:42,710 --> 00:07:41,280
away standing by for contact and capture

123
00:08:09,510 --> 00:07:42,720
10 meters

124
00:08:09,520 --> 00:08:14,550
0.1 is the rate

125
00:08:14,560 --> 00:08:18,550
seven meters

126
00:08:22,710 --> 00:08:21,510
the vehicle is stable six meters is the

127
00:08:31,589 --> 00:08:22,720
range

128
00:08:35,670 --> 00:08:34,070
the docking target now aligned

129
00:08:37,350 --> 00:08:35,680
with the forward docking probe on

130
00:08:42,469 --> 00:08:37,360
progress thanks to the core's automated

131
00:08:48,710 --> 00:08:44,310
the rate is about one

132
00:09:06,070 --> 00:08:49,829
three meters

133
00:09:06,080 --> 00:09:13,590
we are expecting the contact

134
00:09:17,030 --> 00:09:14,949
contact

135
00:09:23,030 --> 00:09:17,040
docking confirmed

136
00:09:25,990 --> 00:09:23,040
at 8 18 pm central time fine beautiful

137
00:09:27,990 --> 00:09:26,000
docking confirmed progress 48 completes

138
00:09:29,590 --> 00:09:28,000

a six-hour ride in the express lane from