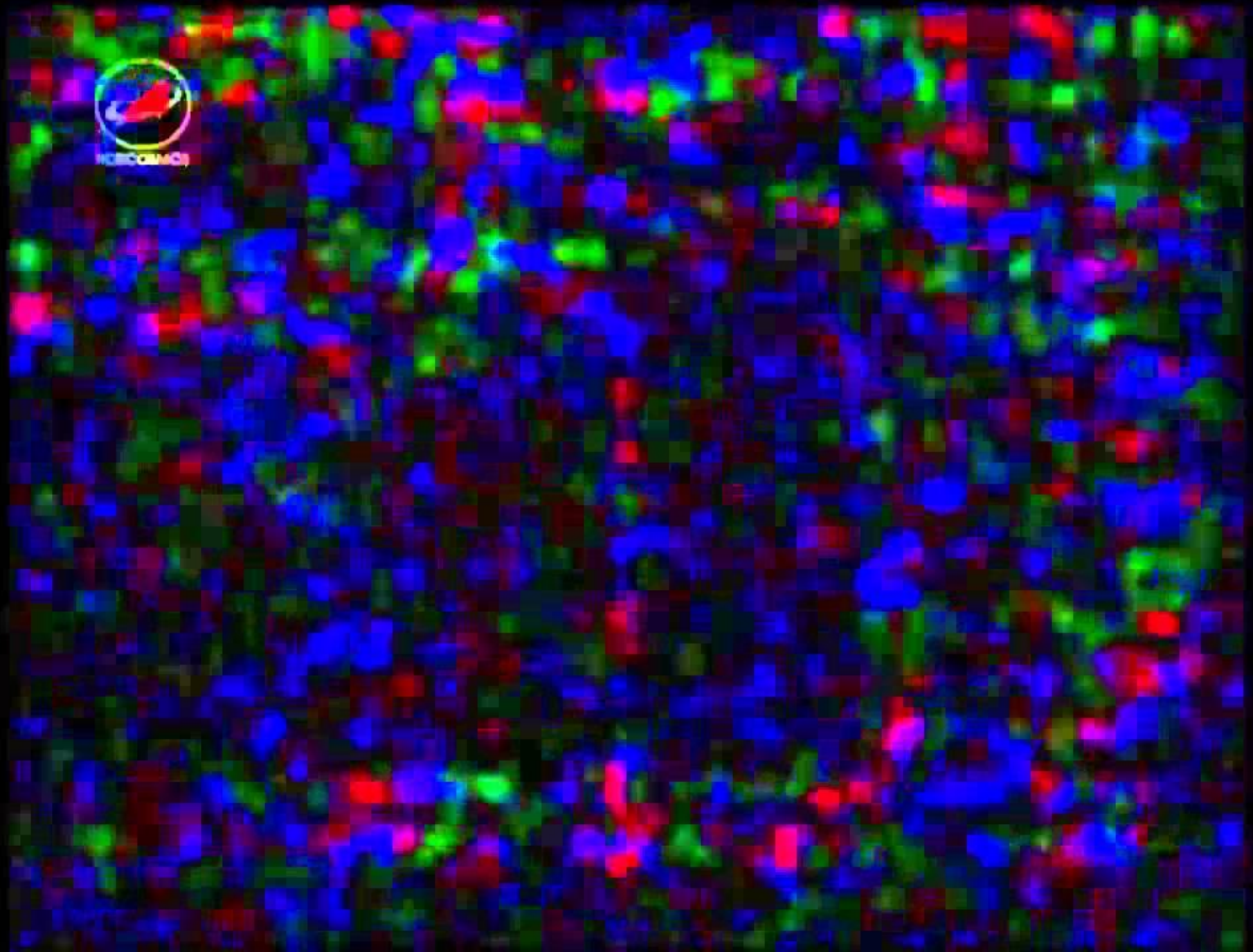

1
00:00:20,089 --> 00:00:15,289
you should be hearing the command for

2
00:00:23,779 --> 00:00:20,099
undocking in about 30 seconds continue

3
00:00:27,620 --> 00:00:23,789
talking to us continue reporting

4
00:00:39,350 --> 00:00:27,630
we copy that circle - five seconds until

5
00:00:41,329 --> 00:00:39,360
sending the command they should not the

6
00:00:43,570 --> 00:00:41,339
undocking command has been issued hooks

7
00:00:47,560 --> 00:00:43,580
are powered and now driving open

8
00:00:50,990 --> 00:00:47,570
understood the confirmation for the

9
00:00:56,900 --> 00:00:51,000
folks open is not on what about the rest

10
00:01:02,299 --> 00:00:56,910
of the indicators a 13s eleven it's all

11
00:01:06,260 --> 00:01:02,309
nominal copy like the electrical

12
00:01:15,950 --> 00:01:06,270
connector made it the indicator is off

13
00:01:20,700 --> 00:01:15,960

off okay we can't be we are observing

14
00:01:26,370 --> 00:01:23,240
the International Space Station flying

15
00:01:29,640 --> 00:01:26,380
256 statute miles over Western China

16
00:01:40,360 --> 00:01:29,650
moving from Southwest to Northeast time

17
00:01:48,320 --> 00:01:43,550
which I got oh poor regime a superweapon

18
00:01:59,440 --> 00:01:48,330
in the Pacific on Daniel be prepared to

19
00:02:07,400 --> 00:02:01,490
fortissimo salvinia

20
00:02:09,410 --> 00:02:07,410
on actual operation continue reporting

21
00:02:11,240 --> 00:02:09,420
that you do not observe any foreign

22
00:02:21,060 --> 00:02:11,250
objects on the interface docking

23
00:02:29,010 --> 00:02:25,020
the departing expedition 33 crew members

24
00:02:33,280 --> 00:02:29,020
had a very eventful for months on orbit

25
00:02:37,690 --> 00:02:33,290
including three spacewalks by Sonny

26
00:02:40,210 --> 00:02:37,700
Williams and Aki hoshide a mélenchon Co

27
00:02:49,900 --> 00:02:40,220
conducted one spacewalk with gennady

28
00:02:56,780 --> 00:02:54,190
research continued almost unabated and

29
00:02:58,970 --> 00:02:56,790
of course visiting vehicles including

30
00:03:00,500 --> 00:02:58,980
the second Dragon spacecraft a

31
00:03:02,479 --> 00:03:00,510
commercial vehicle to arrive at the

32
00:03:12,380 --> 00:03:02,489
International Space Station as we stand

33
00:03:12,390 --> 00:03:35,950
you

34
00:03:42,610 --> 00:03:39,760
it was almost undocking confirmed the

35
00:03:47,710 --> 00:03:42,620
confirmation for the SS repair mode and

36
00:03:51,130 --> 00:03:47,720
also the separation I see the separation

37
00:03:53,920 --> 00:03:51,140
straight without rotating undocking

38
00:03:59,170 --> 00:03:53,930

occurring on time at 4:26 p.m. Central

39
00:04:11,670 --> 00:03:59,180
time over northwestern China the

40
00:04:15,789 --> 00:04:15,100
as I am City 3 me noticing in the poor

41
00:04:18,520 --> 00:04:15,799
populistic

42
00:04:21,069 --> 00:04:18,530
in about 3 minutes a pepper or should

43
00:04:24,129 --> 00:04:21,079
fire how copy

44
00:04:25,779 --> 00:04:24,139
we copy that's the separation burned

45
00:04:27,640 --> 00:04:25,789
being referenced by Russian flight

46
00:04:31,600 --> 00:04:27,650
controllers to the interpretation you're

47
00:04:34,180 --> 00:04:31,610
hearing sonny williams yuri malenchenko

48
00:04:41,909 --> 00:04:34,190
and aki hoshide a begin the journey home

49
00:04:45,879 --> 00:04:41,919
expedition 34 has begun one minute i

50
00:04:48,969 --> 00:04:45,889
confirm the dip old bear and i also see

51
00:04:51,879 --> 00:04:48,979
the indicators for good 5 to 7 ok copy

52
00:04:59,160 --> 00:04:51,889
and you have our go to sending their

53
00:05:08,190 --> 00:05:03,420
there's no dollar five has been put in

54
00:05:09,930 --> 00:05:08,200
and since we're coffee about a minute

55
00:05:12,900 --> 00:05:09,940
and a half away from the separation burn

56
00:05:15,480 --> 00:05:12,910
that will initiate this opening rate to

57
00:05:17,460 --> 00:05:15,490
enable the Soyuz to move to a position

58
00:05:19,410 --> 00:05:17,470
about 12 kilometers away from the

59
00:05:23,580 --> 00:05:19,420
International Space Station for its

60
00:05:58,470 --> 00:05:23,590
deorbit burn at 6:58 and 58 seconds p.m.

61
00:06:04,200 --> 00:06:01,410
all of the Soyuz systems operating

62
00:06:06,630 --> 00:06:04,210
normally yuri malenchenko the veteran

63
00:06:09,150 --> 00:06:06,640

Soyuz commander strapped into the center

64
00:06:11,100 --> 00:06:09,160
seat of the descent module flanked on

65
00:06:14,010 --> 00:06:11,110
his left by Sonny Williams the board

66
00:06:17,010 --> 00:06:14,020
engineer and Aki hoshide a of the Japan

67
00:06:19,940 --> 00:06:17,020
aerospace exploration agency we got

68
00:06:24,450 --> 00:06:19,950
supporting single duty or the other

69
00:06:29,230 --> 00:06:24,460
cause here okay so is that good thank

70
00:06:36,610 --> 00:06:34,840
very cool and the expedition 34

71
00:06:41,890 --> 00:06:36,620
commander Kevin Ford wishing good luck

72
00:06:43,680 --> 00:06:41,900
to the departing crew firing separation

73
00:06:54,150 --> 00:06:43,690
burn has been initiated this is a

74
00:07:04,930 --> 00:06:59,860
and the separation burn is complete and

75
00:07:06,460 --> 00:07:04,940
good normal separation burn you're

76
00:07:08,409 --> 00:07:06,470
seeing the faint outline of the

77
00:07:10,390 --> 00:07:08,419
International Space Station in the

78
00:07:12,189 --> 00:07:10,400
middle of the crosshairs of this

79
00:07:15,550 --> 00:07:12,199
engineering overlay is the Rassvet

80
00:07:18,939 --> 00:07:15,560
module to which the Soyuz TMA o5m had

81
00:07:38,810 --> 00:07:18,949
been attached for the past 125 days

82
00:07:52,100 --> 00:07:46,460
yes please Abbadon inaudible we confirm

83
00:07:55,520 --> 00:07:52,110
oh they're copy important iroquois do

84
00:08:03,780 --> 00:07:55,530
not start closeout operations only on

85
00:08:03,790 --> 00:08:21,130
you

86
00:08:26,930 --> 00:08:23,870
the Soyuz and the International Space

87
00:08:30,410 --> 00:08:26,940
Station crossing over the border between

88
00:08:34,040 --> 00:08:30,420

Mongolia and Russia soon to begin a

89
00:08:36,409 --> 00:08:34,050
Northwest to Southeast early track that

90
00:08:39,040 --> 00:08:36,419
will carry the vehicles over northern

91
00:08:43,460 --> 00:08:39,050
Japan and out across the Pacific Ocean

92
00:08:44,060 --> 00:08:43,470
soon to enter an orbital sunrise once

93
00:08:47,150 --> 00:08:44,070
again

94
00:08:50,330 --> 00:08:47,160
undocking occurring on time at 4:26 p.m.

95
00:08:52,220 --> 00:08:50,340
Central Time as the Soyuz and the

96
00:08:55,370 --> 00:08:52,230
International Space Station passed over

97
00:08:57,290 --> 00:08:55,380
northwestern China the Soyuz again will

98
00:08:59,030 --> 00:08:57,300
drift to a distance of about 12

99
00:09:03,020 --> 00:08:59,040
kilometers away from the space station

100
00:09:06,350 --> 00:09:03,030
at which point at 6:58 and 58 seconds

101
00:09:10,880 --> 00:09:06,360
p.m. Central time about 3 hours and 22

102
00:09:19,180 --> 00:09:15,750
the deorbit burn will take place

103
00:09:21,070 --> 00:09:19,190
correction about 2 hours and 25 minutes

104
00:09:25,180 --> 00:09:21,080
from now that the orbit burn will take

105
00:09:28,600 --> 00:09:25,190
place at 6:58 and 58 seconds p.m.

106
00:09:30,940 --> 00:09:28,610
Central Time the deorbit burn to enable

107
00:09:33,640 --> 00:09:30,950
the Soyuz to drop out of orbit to begin

108
00:09:36,280 --> 00:09:33,650
its targeting for the landing site in

109
00:09:38,340 --> 00:09:36,290
north-central Kazakhstan will be 4

110
00:09:42,730 --> 00:09:38,350
minutes and 43 seconds in duration

111
00:09:45,100 --> 00:09:42,740
slowing the spacecraft down by 128 m/s

112
00:09:46,690 --> 00:09:45,110
enabling it to drop out of orbit to

113
00:09:55,250 --> 00:09:46,700

begin its descent back into the Earth's

114
00:09:55,260 --> 00:10:50,120
you

115
00:10:58,170 --> 00:10:53,730
the International Space Station has had

116
00:11:01,380 --> 00:10:58,180
its thrusters re-enabled so that it has

117
00:11:03,750 --> 00:11:01,390
control now of its own orientation all

118
00:11:06,090 --> 00:11:03,760
the station systems are in excellent

119
00:11:09,720 --> 00:11:06,100
shape the Soyuz drifting away from the

120
00:11:12,840 --> 00:11:09,730
space station as sunny williams yuri

121
00:11:15,120 --> 00:11:12,850
malenchenko and aki hoshide a have a

122
00:11:17,850 --> 00:11:15,130
bird's-eye view looking back towards

123
00:11:26,880 --> 00:11:17,860
what had been their orbital home for the

124
00:11:30,900 --> 00:11:26,890
past 125 days we are playing the

125
00:11:33,480 --> 00:11:30,910
distance between specimens radially you

126
00:11:37,680 --> 00:11:33,490
are going to proceed with the closeout

127
00:12:06,070 --> 00:11:37,690
separation regular rhythm Poppaea stage

128
00:12:14,230 --> 00:12:10,090
as the image of the International Space

129
00:12:16,330 --> 00:12:14,240
Station begins to diminish we would

130
00:12:19,450 --> 00:12:16,340
remind you a couple of statistical

131
00:12:21,370 --> 00:12:19,460
points here at the time of landing which

132
00:12:24,160 --> 00:12:21,380
is three hours and 18 minutes from now

133
00:12:27,520 --> 00:12:24,170
Sonny Williams will have completed 322

134
00:12:29,620 --> 00:12:27,530
days in space on her two flights that

135
00:12:33,820 --> 00:12:29,630
puts her sixth on the all-time us

136
00:12:37,870 --> 00:12:33,830
endurance list and second for all us

137
00:12:40,030 --> 00:12:37,880
female crew members in fact second on

138
00:12:42,550 --> 00:12:40,040

for all female crew members who have

139
00:12:45,780 --> 00:12:42,560
ever flown in space behind Peggy Whitson

140
00:12:49,930 --> 00:12:45,790
who logged 377 days on her two flights

141
00:12:53,260 --> 00:12:49,940
Aki hoshide I will have accumulated 141

142
00:12:56,110 --> 00:12:53,270
days in space on his two flights he will

143
00:12:58,630 --> 00:12:56,120
log enough time to be third on the

144
00:13:02,970 --> 00:12:58,640
all-time Japanese endurance list behind

145
00:13:06,250 --> 00:13:02,980
so Ichi Noguchi and Koichi Wakata

146
00:13:09,790 --> 00:13:06,260
Japanese astronaut Satoshi Furukawa who

147
00:13:13,270 --> 00:13:09,800
landed a year ago with Mike Fossum on

148
00:13:18,010 --> 00:13:13,280
their mission for Okawa is in Kazakhstan

149
00:13:20,470 --> 00:13:18,020
in fact in our collec and will be on one

150
00:13:23,320 --> 00:13:20,480
of the Russian mi-8 helicopters heading

151
00:13:25,210 --> 00:13:23,330
for the landing site along with flight

152
00:13:27,940 --> 00:13:25,220
surgeons from the jab from the Japan

153
00:13:31,750 --> 00:13:27,950
aerospace exploration agency to assist

154
00:13:35,770 --> 00:13:31,760
in the recovery of Hoshi day yuri

155
00:13:38,770 --> 00:13:35,780
malenchenko will have accumulated 642

156
00:13:40,630 --> 00:13:38,780
days in space on five flights putting

157
00:13:43,000 --> 00:13:40,640
him seventh on the all-time endurance

158
00:13:46,210 --> 00:13:43,010
list behind six other russians sergei

159
00:13:49,510 --> 00:13:46,220
krikalev alexander kaleri sergey of

160
00:13:55,150 --> 00:13:49,520
deive gennady padalka filari Polyakov

161
00:14:08,870 --> 00:14:06,590
only one fresher 179 to 178 as the Soyuz

162
00:14:11,090 --> 00:14:08,880
drifts away from the International Space

163
00:14:13,400 --> 00:14:11,100

Station preparations now underway for

164
00:14:16,850 --> 00:14:13,410
the deorbit burn that is scheduled at

165
00:14:18,920 --> 00:14:16,860
6:58 and 58 seconds p.m. Central time

166
00:14:22,310 --> 00:14:18,930
you're looking at animation that showed

167
00:14:24,770 --> 00:14:22,320
the undocking first of the Soyuz which

168
00:14:28,000 --> 00:14:24,780
occurred at 4:26 p.m. Central time just

169
00:14:30,680 --> 00:14:28,010
a few minutes ago the deorbit burn

170
00:14:33,560 --> 00:14:30,690
involving the Soyuz engines will be four

171
00:14:35,240 --> 00:14:33,570
minutes 43 seconds in duration to slow

172
00:14:37,370 --> 00:14:35,250
the Soyuz down by a hundred and twenty

173
00:14:39,200 --> 00:14:37,380
eight meters per second enabling it to

174
00:14:42,860 --> 00:14:39,210
drop out of orbit for its descent back

175
00:14:45,380 --> 00:14:42,870
into the Earth's atmosphere at 7:26 p.m.

176
00:14:47,570 --> 00:14:45,390
Central Time pyrotechnics will initiate

177
00:14:49,790 --> 00:14:47,580
the separation of the three sections of

178
00:14:51,140 --> 00:14:49,800
the Soyuz spacecraft the crew is

179
00:14:52,730 --> 00:14:51,150
strapped into their seats and their

180
00:14:55,280 --> 00:14:52,740
sokol launch and entry suits in the

181
00:14:57,350 --> 00:14:55,290
center section or descent module heat

182
00:14:59,900 --> 00:14:57,360
will build up around the Soyuz as heat

183
00:15:02,210 --> 00:14:59,910
shield to about 2,500 degrees Fahrenheit

184
00:15:05,000 --> 00:15:02,220
as it barrels in toward the Earth's

185
00:15:07,280 --> 00:15:05,010
atmosphere entry interface occurring

186
00:15:09,770 --> 00:15:07,290
just before 7:30 p.m. Central time the

187
00:15:11,990 --> 00:15:09,780
command to open chutes will begin at

188
00:15:14,480 --> 00:15:12,000

7:30 8:00 p.m. Central time first a

189
00:15:17,150 --> 00:15:14,490
drogue chute to decelerate the Soyuz

190
00:15:21,410 --> 00:15:17,160
followed by the opening of the huge main

191
00:15:23,630 --> 00:15:21,420
chute that will further decrease of the

192
00:15:25,640 --> 00:15:23,640
Soyuz as descent rate and then just a

193
00:15:27,380 --> 00:15:25,650
couple of seconds before touchdown the

194
00:15:30,620 --> 00:15:27,390
soft landing engines will ignite and

195
00:15:33,770 --> 00:15:30,630
touchdown as expected at 7:53

196
00:15:35,900 --> 00:15:33,780
and 30 seconds p.m. Central time and if

197
00:15:38,810 --> 00:15:35,910
all goes as planned touchdown to occur

198
00:15:41,080 --> 00:15:38,820
about 52 miles northeast of the remote