
СОЮЗ

1
00:00:01,540 --> 00:00:07,490
[Music]

2
00:00:28,640 --> 00:00:10,310
foreign

3
00:01:04,789 --> 00:00:35,140
[Music]

4
00:01:08,330 --> 00:01:06,770
good day for Mission Control in Houston

5
00:01:10,730 --> 00:01:08,340
and the International Space Station

6
00:01:13,070 --> 00:01:10,740
flight control room here at the Johnson

7
00:01:15,250 --> 00:01:13,080
Space Center where the orbit one team of

8
00:01:18,230 --> 00:01:15,260
flight controllers on duty at this hour

9
00:01:20,270 --> 00:01:18,240
working in tandem with their Russian

10
00:01:22,810 --> 00:01:20,280
counterparts half a world away at the

11
00:01:26,510 --> 00:01:22,820
Russian Mission Control Center

12
00:01:29,450 --> 00:01:26,520
outside of Moscow preparing for the

13
00:01:32,450 --> 00:01:29,460

undocking and relocation of three of the

14
00:01:36,289 --> 00:01:32,460
crew members aboard the soyuz ms-23

15
00:01:37,270 --> 00:01:36,299
spacecraft everything is in order for

16
00:01:41,569 --> 00:01:37,280
them

17
00:01:45,649 --> 00:01:41,579
that is scheduled at 3 45 a.m Central

18
00:01:46,929 --> 00:01:45,659
Time 4 45 a.m eastern time here in

19
00:01:49,550 --> 00:01:46,939
Mission Control

20
00:01:51,710 --> 00:01:49,560
the orbit one team is led by flight

21
00:01:54,289 --> 00:01:51,720
director Allison Bollinger who's on

22
00:01:56,870 --> 00:01:54,299
Console at this hour to her right she is

23
00:01:59,510 --> 00:01:56,880
joined by two veteran astronauts Kayla

24
00:02:02,389 --> 00:01:59,520
Baron who flew a crew dragon to the

25
00:02:04,730 --> 00:02:02,399
International Space Station and Canadian

26
00:02:07,690 --> 00:02:04,740
space agency astronaut David St jock who

27
00:02:12,070 --> 00:02:07,700
launched and landed on a soyuz vehicle

28
00:02:15,350 --> 00:02:12,080
launching in 2018 Landing in 2019.

29
00:02:17,390 --> 00:02:15,360
today's activities to relocate the soyuz

30
00:02:19,250 --> 00:02:17,400
from the poisk module on the

31
00:02:21,770 --> 00:02:19,260
space-facing side of the Russian segment

32
00:02:24,290 --> 00:02:21,780
of the International Space Station to

33
00:02:26,350 --> 00:02:24,300
the prashal module on the earth facing

34
00:02:29,210 --> 00:02:26,360
side of the station that's the

35
00:02:31,250 --> 00:02:29,220
multi-hatched node module that is

36
00:02:34,490 --> 00:02:31,260
attached to the naoka multi-purpose

37
00:02:38,630 --> 00:02:34,500
laboratory module the reason for that

38
00:02:41,809 --> 00:02:38,640

relocation today is twofold one to open

39
00:02:44,030 --> 00:02:41,819
up the poisk module and its airlock for

40
00:02:46,910 --> 00:02:44,040
a series of Russian spacewalks that are

41
00:02:50,570 --> 00:02:46,920
about to begin on April 18th April 25th

42
00:02:52,850 --> 00:02:50,580
and May 4th by Sergey prokopia the

43
00:02:55,850 --> 00:02:52,860
Expedition 69 commander and Dimitri

44
00:02:58,550 --> 00:02:55,860
patellen his Rose Cosmos Cosmonaut

45
00:03:01,009 --> 00:02:58,560
colleague those three spacewalks again

46
00:03:04,009 --> 00:03:01,019
coming up over a two-week period

47
00:03:06,290 --> 00:03:04,019
beginning in just a couple of weeks it

48
00:03:10,070 --> 00:03:06,300
also opens up the poisk module for the

49
00:03:12,649 --> 00:03:10,080
docking in May of the ISS progress 84

50
00:03:14,869 --> 00:03:12,659
cargo ship that will be launched from

51
00:03:17,449 --> 00:03:14,879
the baikonur cosmodrome and Kazakhstan

52
00:03:19,790 --> 00:03:17,459
on a tour but Rendezvous to reach the

53
00:03:23,030 --> 00:03:19,800
international Outpost

54
00:03:26,330 --> 00:03:23,040
11 34. a few hours ago the three crew

55
00:03:28,250 --> 00:03:26,340
members who will ride the soyuz ms-23 on

56
00:03:31,369 --> 00:03:28,260
this short trip around the block from

57
00:03:33,770 --> 00:03:31,379
one docking port to another uh prokopiev

58
00:03:35,570 --> 00:03:33,780
in the middle of your screen there he is

59
00:03:38,030 --> 00:03:35,580
the soyuz commander as well as the

60
00:03:40,130 --> 00:03:38,040
International Space Station Commander he

61
00:03:42,289 --> 00:03:40,140
is strapped Into The Descent module in

62
00:03:44,330 --> 00:03:42,299
the center seat of the center most

63
00:03:47,449 --> 00:03:44,340

section of the three section soyuz

64
00:03:50,210 --> 00:03:47,459
vehicle to his left on the right of your

65
00:03:52,190 --> 00:03:50,220
screen is Rose Cosmos Cosmonaut Dimitri

66
00:03:55,550 --> 00:03:52,200
patellen serving as board engineer

67
00:03:57,649 --> 00:03:55,560
number one today and to procopias right

68
00:04:01,130 --> 00:03:57,659
on the left side of your screen NASA

69
00:04:02,930 --> 00:04:01,140
astronaut Frank Rubio the crew suited up

70
00:04:05,570 --> 00:04:02,940
in their so-called launch and entry

71
00:04:08,449 --> 00:04:05,580
suits a couple of hours ago conducted

72
00:04:10,729 --> 00:04:08,459
leak checks they are all set for the

73
00:04:13,250 --> 00:04:10,739
undocking that will begin with an

74
00:04:16,969 --> 00:04:13,260
undocking command that will be sent at 3

75
00:04:19,490 --> 00:04:16,979
43 in 30 seconds am central time it will

76
00:04:23,810 --> 00:04:19,500
take about 90 seconds for the hooks

77
00:04:25,810 --> 00:04:23,820
holding in the soyuz ms-23 to the poisk

78
00:04:28,790 --> 00:04:25,820
module to

79
00:04:30,469 --> 00:04:28,800
unhook basically open up and then

80
00:04:32,270 --> 00:04:30,479
Springs on both sides of the docking

81
00:04:34,730 --> 00:04:32,280
interface will push off against one

82
00:04:38,990 --> 00:04:34,740
another physical separation is expected

83
00:04:42,170 --> 00:04:39,000
at 3 45 a.m Central 4 45 a.m eastern

84
00:04:45,710 --> 00:04:42,180
time at that point procopia of flying

85
00:04:47,050 --> 00:04:45,720
the soyuz manually will back away from

86
00:04:49,610 --> 00:04:47,060
the vehicle

87
00:04:52,129 --> 00:04:49,620
basically above the International Space

88
00:04:54,830 --> 00:04:52,139

Station to a distance of about 40 to 60

89
00:04:58,490 --> 00:04:54,840
meters that will take about nine minutes

90
00:05:01,070 --> 00:04:58,500
to complete the soyuz will execute a 180

91
00:05:02,930 --> 00:05:01,080
degree rotation and then procopia will

92
00:05:04,850 --> 00:05:02,940
begin his fly around of the station

93
00:05:07,850 --> 00:05:04,860
moving in front of the international

94
00:05:10,909 --> 00:05:07,860
Outpost maintaining a distance all the

95
00:05:13,969 --> 00:05:10,919
time of between 40 and 60 meters then

96
00:05:16,249 --> 00:05:13,979
directly below the station for a short

97
00:05:19,070 --> 00:05:16,259
period of station keeping so that the

98
00:05:21,530 --> 00:05:19,080
soyuz can align itself properly with the

99
00:05:24,230 --> 00:05:21,540
prashal module tool before approval is

100
00:05:27,770 --> 00:05:24,240
given for Final Approach and docking

101
00:05:31,430 --> 00:05:27,780
that is scheduled to per shawl at 4 23

102
00:05:33,890 --> 00:05:31,440
a.m Central Time 5 23 a.m eastern time

103
00:05:36,650 --> 00:05:33,900
the hooks between the soyuz and the

104
00:05:38,749 --> 00:05:36,660
Purcell module will then close to form a

105
00:05:40,909 --> 00:05:38,759
hard mate there will be leak checks over

106
00:05:43,370 --> 00:05:40,919
the course of the next orbit before the

107
00:05:46,370 --> 00:05:43,380
crew will open up the hatches between

108
00:05:48,409 --> 00:05:46,380
the station and the soyuz vehicle and

109
00:05:52,310 --> 00:05:48,419
make their way inside the International

110
00:05:56,749 --> 00:05:55,249
this soyuz vehicle that the three crew

111
00:05:59,390 --> 00:05:56,759
members will ride on their short

112
00:06:02,390 --> 00:05:59,400
38-minute Transit from one docking port

113
00:06:05,510 --> 00:06:02,400

to another today was launched back in

114
00:06:07,730 --> 00:06:05,520
February on a two-day Rendezvous to

115
00:06:10,730 --> 00:06:07,740
reach the International Space Station it

116
00:06:14,870 --> 00:06:10,740
is the vehicle replacing the damaged

117
00:06:17,590 --> 00:06:14,880
soyuz ms-22 spacecraft which was

118
00:06:21,170 --> 00:06:17,600
affected by a loss of its cooling

119
00:06:23,150 --> 00:06:21,180
capability through what Rose Cosmos has

120
00:06:26,210 --> 00:06:23,160
said the most probable cause of which

121
00:06:30,110 --> 00:06:26,220
was a micro meteorite strike back on

122
00:06:33,550 --> 00:06:30,120
December 14th that damaged soyuz ms-22

123
00:06:35,270 --> 00:06:33,560
vehicle without a crew on board undocked

124
00:06:38,090 --> 00:06:35,280
automatically from the International

125
00:06:41,450 --> 00:06:38,100
Space Station just eight days ago on

126
00:06:45,170 --> 00:06:41,460
March 28th actually almost nine days ago

127
00:06:47,629 --> 00:06:45,180
now and uh executed a an automated

128
00:06:49,969 --> 00:06:47,639
deorbit and a parachute assisted landing

129
00:06:52,249 --> 00:06:49,979
on the step of Kazakhstan where it is

130
00:06:55,430 --> 00:06:52,259
undergoing analysis by a Russian

131
00:06:58,370 --> 00:06:55,440
Specialists to determine how it fared

132
00:07:09,790 --> 00:06:58,380
during its re-entry back into the

133
00:07:15,830 --> 00:07:12,290
the flight control team here in Houston

134
00:07:18,710 --> 00:07:15,840
took a poll of its uh flight controllers

135
00:07:21,710 --> 00:07:18,720
a short time ago all uh the positions

136
00:07:23,629 --> 00:07:21,720
pulled go for undocking the Russian

137
00:07:26,089 --> 00:07:23,639
flight control team and Carl youth

138
00:07:27,830 --> 00:07:26,099

outside of Moscow in charge of this

139
00:07:30,230 --> 00:07:27,840
operation that you see in this View From

140
00:07:33,230 --> 00:07:30,240
A Balcony camera on the right side of

141
00:07:36,290 --> 00:07:33,240
your screen they have been conversing

142
00:07:39,409 --> 00:07:36,300
with the cosmonauts and Frank Rubio on

143
00:07:41,450 --> 00:07:39,419
board the soyuz vehicle since they

144
00:07:44,270 --> 00:07:41,460
climbed on board and activated the soyuz

145
00:07:47,270 --> 00:07:44,280
systems a couple of hours ago

146
00:07:48,770 --> 00:07:47,280
this kicks off an extremely busy period

147
00:07:52,070 --> 00:07:48,780
of activity on board the International

148
00:07:53,930 --> 00:07:52,080
Space Station as mentioned uh there are

149
00:07:58,730 --> 00:07:53,940
three Russian spacewalks that are coming

150
00:08:01,490 --> 00:07:58,740
up April 18th 25th and May 4th those

151
00:08:04,790 --> 00:08:01,500
will be sandwiched around a U.S

152
00:08:06,550 --> 00:08:04,800
spacewalk out of the quest airlock to

153
00:08:09,589 --> 00:08:06,560
retrieve radio

154
00:08:14,029 --> 00:08:09,599
antenna equipment that was replaced

155
00:08:17,390 --> 00:08:14,039
during a December 2021 spacewalk that

156
00:08:20,990 --> 00:08:17,400
U.S spacewalk is scheduled on April 28th

157
00:08:24,650 --> 00:08:21,000
in the meantime the SpaceX 27 cargo

158
00:08:25,969 --> 00:08:24,660
dragon is scheduled to undock from the

159
00:08:29,450 --> 00:08:25,979
harmony module of the International

160
00:08:32,329 --> 00:08:29,460
Space Station on April 15th just six

161
00:08:35,389 --> 00:08:32,339
days later the Northrop grumman's cygnus

162
00:08:38,389 --> 00:08:35,399
cargo ship is scheduled to un to be

163
00:08:40,850 --> 00:08:38,399

unbirthed and released robotically from

164
00:08:42,949 --> 00:08:40,860
the International Space Station so all

165
00:08:45,410 --> 00:08:42,959
of this activity laid out over the next

166
00:08:47,449 --> 00:08:45,420
several weeks so we'll keep the

167
00:08:50,389 --> 00:08:47,459
Expedition 69 crew on board the

168
00:08:53,990 --> 00:08:50,399
International Space Station quite busy

169
00:08:56,090 --> 00:08:54,000
Expedition 69 again under the command of

170
00:08:58,910 --> 00:08:56,100
uh Rose Cosmos Cosmonaut Sergey

171
00:09:02,030 --> 00:08:58,920
prokopiev joined on board the soyuz

172
00:09:05,769 --> 00:09:02,040
today by Dimitri patelan of Rose Cosmos

173
00:09:09,290 --> 00:09:05,779
and Frank Rubio of NASA who rode the

174
00:09:12,009 --> 00:09:09,300
ms-22 soyuz to the International Space

175
00:09:16,610 --> 00:09:12,019
Station back in September this is their

176
00:09:19,070 --> 00:09:16,620
197th day in space they will return to

177
00:09:21,889 --> 00:09:19,080
Earth in late September on board the

178
00:09:24,470 --> 00:09:21,899
same soyuz that they're taking today for

179
00:09:33,350 --> 00:09:24,480
their relocation from the poisk module

180
00:09:38,930 --> 00:09:35,750
the International Space Station is

181
00:09:41,690 --> 00:09:38,940
currently flying about 260 statute miles

182
00:09:44,690 --> 00:09:41,700
over the Southeastern Pacific Ocean

183
00:09:46,610 --> 00:09:44,700
about to cross the coast of Chile

184
00:09:49,490 --> 00:09:46,620
and then begin a Southwest to

185
00:09:51,410 --> 00:09:49,500
northeasterly track that will carry it

186
00:09:54,590 --> 00:09:51,420
across the Atlantic Ocean and the west

187
00:09:56,570 --> 00:09:54,600
coast of Africa a short time from now

188
00:09:59,389 --> 00:09:56,580

aboard the International Space Station

189
00:10:02,030 --> 00:09:59,399
other activities are ongoing

190
00:10:04,070 --> 00:10:02,040
gross Cosmos Cosmonaut Andrei fadallas

191
00:10:07,430 --> 00:10:04,080
is in the Russian segment of the station

192
00:10:10,009 --> 00:10:07,440
monitoring the activities involved with

193
00:10:12,350 --> 00:10:10,019
the soyuz spacecraft's relocation this

194
00:10:13,610 --> 00:10:12,360
morning while in the Russians while in

195
00:10:16,850 --> 00:10:13,620
the U.S segment of the International

196
00:10:21,350 --> 00:10:16,860
Space Station NASA astronauts Steve

197
00:10:26,710 --> 00:10:21,360
Bowen and Woody hoberg along with

198
00:10:34,910 --> 00:10:30,710
are busy working on stowage activities

199
00:10:37,430 --> 00:10:34,920
for both the SpaceX 27 cargo vehicle as

200
00:10:39,769 --> 00:10:37,440
well as the Northrop Grumman a cargo

201
00:10:41,329 --> 00:10:39,779
vehicle that is being loaded with items

202
00:10:44,210 --> 00:10:41,339
no longer needed on board the

203
00:10:47,030 --> 00:10:44,220
International Space Station SpaceX 27

204
00:10:49,490 --> 00:10:47,040
the cargo Dragon will bring home

205
00:10:51,230 --> 00:10:49,500
scientific experiments and Hardware to

206
00:10:53,870 --> 00:10:51,240
be refurbished on the ground to be

207
00:10:56,030 --> 00:10:53,880
reflown while the cygnus vehicle will

208
00:10:59,030 --> 00:10:56,040
burn up in the Earth's atmosphere once

209
00:11:01,130 --> 00:10:59,040
it is deorbited following its unbirth

210
00:11:21,530 --> 00:11:01,140
and robotic release from the

211
00:11:27,350 --> 00:11:24,110
the International Space Station is in

212
00:11:30,710 --> 00:11:27,360
the correct orientation for the

213
00:11:33,290 --> 00:11:30,720

undocking of the soyuz once again this

214
00:11:36,590 --> 00:11:33,300
uh will be a manual operation where

215
00:11:39,710 --> 00:11:36,600
procopia will fly the soyuz away from

216
00:11:41,750 --> 00:11:39,720
the station basically backing away above

217
00:11:43,910 --> 00:11:41,760
the International Space Station on the

218
00:11:46,850 --> 00:11:43,920
space-facing side of the complex in the

219
00:11:50,150 --> 00:11:46,860
from the poisk module to a distance of

220
00:11:53,530 --> 00:11:50,160
about a hundred of about 40 to 60 meters

221
00:11:57,710 --> 00:11:53,540
above the station for a 180 degree

222
00:12:01,130 --> 00:11:57,720
rotation maneuver that will Orient the

223
00:12:04,250 --> 00:12:01,140
soyuz properly for its flyer on that fly

224
00:12:06,410 --> 00:12:04,260
around or fly over as the case may be is

225
00:12:10,430 --> 00:12:06,420
expected right around the top of the

226
00:12:13,190 --> 00:12:10,440
hour at 4 a.m Central Time 5 a.m eastern

227
00:12:16,009 --> 00:12:13,200
time the soyuz maintaining a distance of

228
00:12:18,949 --> 00:12:16,019
between 40 and 60 meters away from the

229
00:12:20,810 --> 00:12:18,959
station will then fly in front of the

230
00:12:22,790 --> 00:12:20,820
international Outpost along what is

231
00:12:26,150 --> 00:12:22,800
called the velocity vector or the

232
00:12:28,910 --> 00:12:26,160
positive V bar and then directly below

233
00:12:31,190 --> 00:12:28,920
the station again maintaining that 40 to

234
00:12:34,310 --> 00:12:31,200
60 meter distance away from the station

235
00:12:37,810 --> 00:12:34,320
a period of station keeping will

236
00:12:41,569 --> 00:12:37,820
commence at about 4 12 a.m central time

237
00:12:43,850 --> 00:12:41,579
before approval is given by the Russian

238
00:12:46,370 --> 00:12:43,860

flight control team in Korea to begin

239
00:12:49,670 --> 00:12:46,380
Final Approach that should result in a

240
00:14:58,750 --> 00:12:49,680
redocking to the prashal module at 4 23

241
00:15:05,750 --> 00:15:02,930
there's a view of the poisk module near

242
00:15:08,389 --> 00:15:05,760
the top of your screen that is the

243
00:15:11,150 --> 00:15:08,399
module to which the soyuz ms-23 is

244
00:15:14,449 --> 00:15:11,160
currently docked and which will undock

245
00:15:18,290 --> 00:15:14,459
from the station about 15 and a half

246
00:15:21,590 --> 00:15:18,300
minutes from now at 3 45 a.m Central 4

247
00:15:25,069 --> 00:15:21,600
45 a.m eastern time the soyuz itself

248
00:15:27,410 --> 00:15:25,079
right at the bottom of your screen

249
00:15:30,170 --> 00:15:27,420
again the soyuz the three section

250
00:15:32,810 --> 00:15:30,180
spacecraft the forward most section is

251
00:15:34,490 --> 00:15:32,820
called the orbital module the center

252
00:15:37,310 --> 00:15:34,500
section where the crew is strapped into

253
00:15:40,910 --> 00:15:37,320
their respective seats is The Descent

254
00:15:43,790 --> 00:15:40,920
module with procopia and the center seat

255
00:15:47,569 --> 00:15:43,800
flanked to his left by Dimitri patellen

256
00:15:50,769 --> 00:15:47,579
and to his right by NASA's Frank Rubio

257
00:15:53,810 --> 00:15:50,779
during the course of today's relocation

258
00:15:56,569 --> 00:15:53,820
Russian flight controllers in conversing

259
00:16:00,470 --> 00:15:56,579
with procopiev on board soyuz will be

260
00:16:03,650 --> 00:16:00,480
using the call sign altai which is the

261
00:16:42,490 --> 00:16:03,660
call sign that prokopiev has used for

262
00:16:49,009 --> 00:16:46,730
the hooks from the poisk side of the

263
00:16:53,150 --> 00:16:49,019

docking interface holding the soyuz in

264
00:16:56,389 --> 00:16:53,160
place were opened upon command

265
00:16:59,749 --> 00:16:56,399
about an hour or so ago these soyuz

266
00:17:02,329 --> 00:16:59,759
hooks will be commanded to open less

267
00:17:05,569 --> 00:17:02,339
than 12 and a half minutes from now and

268
00:17:08,630 --> 00:17:05,579
that will take about 90 seconds followed

269
00:17:11,390 --> 00:17:08,640
by the pushing off of uh Springs on both

270
00:17:14,870 --> 00:17:11,400
sides of the docking interface to enable

271
00:17:17,870 --> 00:17:14,880
the soyuz to confirm physical separation

272
00:18:13,669 --> 00:17:17,880
and begin its back away from the poisk

273
00:18:18,710 --> 00:18:16,010
the International Space Station has now

274
00:18:21,049 --> 00:18:18,720
crossed the east coast of Argentina

275
00:18:24,070 --> 00:18:21,059
beginning a swing across the Atlantic

276
00:18:29,510 --> 00:18:26,930
all of the station systems are operating

277
00:18:46,730 --> 00:18:29,520
in normal fashion in support of today's

278
00:18:51,169 --> 00:18:49,610
this is not the only vehicle relocation

279
00:18:53,510 --> 00:18:51,179
on tap

280
00:18:57,710 --> 00:18:53,520
over the course of the next few weeks

281
00:19:01,669 --> 00:18:57,720
the crew 6 crew dragon that launched

282
00:19:04,430 --> 00:19:01,679
Steve Bowen Woody hoberg Sultan al-niadi

283
00:19:06,650 --> 00:19:04,440
and Andre fed yayev to the International

284
00:19:09,310 --> 00:19:06,660
Space Station back in February will

285
00:19:13,970 --> 00:19:09,320
actually conduct a pair of relocations

286
00:19:17,150 --> 00:19:13,980
that will enable the various ports on

287
00:19:19,730 --> 00:19:17,160
the harmony module to be opened for the

288
00:19:22,909 --> 00:19:19,740

arrival of the Axiom 2 crew as well as

289
00:19:45,970 --> 00:19:22,919
the Boeing Starliner crew flight test

290
00:19:50,870 --> 00:19:48,350
just about nine and a half minutes now

291
00:19:52,789 --> 00:19:50,880
until the undocking command is issued to

292
00:19:56,750 --> 00:19:52,799
open up the soyuz hooks holding the

293
00:19:58,789 --> 00:19:56,760
vehicle in place to the poisk module 90

294
00:20:00,289 --> 00:19:58,799
seconds later Springs on both sides of

295
00:20:01,810 --> 00:20:00,299
the docking interface will push off

296
00:20:04,190 --> 00:20:01,820
against one another

297
00:20:08,450 --> 00:20:04,200
inducing physical separation of the

298
00:20:17,140 --> 00:20:08,460
soyuz at a rate of about uh 0.12 meters

299
00:20:17,150 --> 00:20:30,890
[Music]

300
00:20:49,430 --> 00:20:36,470
11 34 40. a closed receiver a close

301
00:20:56,330 --> 00:20:52,789
the primary server is

302
00:20:58,909 --> 00:20:56,340
in operation on board The Descent module

303
00:21:00,310 --> 00:20:58,919
of the soyuz vehicle procopia patellen

304
00:21:03,770 --> 00:21:00,320
and Frank Rubio

305
00:21:06,789 --> 00:21:03,780
are all set for their short ride from

306
00:21:10,070 --> 00:21:06,799
one docking port to another

307
00:21:11,990 --> 00:21:10,080
space suits have been leak checked

308
00:21:15,289 --> 00:21:12,000
everything is in order

309
00:21:18,110 --> 00:21:15,299
the small passageway the Connecting

310
00:21:21,289 --> 00:21:18,120
Point between the soyuz and the poisk

311
00:21:24,409 --> 00:21:21,299
module has been depressurized down to

312
00:21:26,930 --> 00:21:24,419
vacuum in advance of the physical

313
00:21:42,730 --> 00:21:26,940

separation of the soyuz from the

314
00:21:42,740 --> 00:21:48,770
1137 ready to send the command E2

315
00:21:54,110 --> 00:21:50,810
copy

316
00:21:58,250 --> 00:21:54,120
this sends the command E2 of the

317
00:21:58,260 --> 00:22:13,789
uh copies come up in about one minute

318
00:22:13,799 --> 00:22:28,310
is it ready yes

319
00:22:45,250 --> 00:22:32,330
30 seconds remaining um

320
00:22:51,710 --> 00:22:48,289
and now you're seeing a view uh just as

321
00:22:53,090 --> 00:22:51,720
the crew is on board the soyuz ms-23 on

322
00:22:55,330 --> 00:22:53,100
the left side of your screen that

323
00:22:58,610 --> 00:22:55,340
familiar cross-haired engineering camera

324
00:23:01,250 --> 00:22:58,620
that will show flight controllers and

325
00:23:04,250 --> 00:23:01,260
curlyoff all of the engineering data

326
00:23:06,049 --> 00:23:04,260
about the separation distance between

327
00:23:09,230 --> 00:23:06,059
the soyuz and the International Space

328
00:23:13,610 --> 00:23:09,240
Station its rate of departure basically

329
00:23:16,730 --> 00:23:13,620
backing away at the correct rate to

330
00:23:19,549 --> 00:23:16,740
begin its fly around of the station at a

331
00:23:22,430 --> 00:23:19,559
distance of between 40 and 60 meters a

332
00:23:24,350 --> 00:23:22,440
radial fly around of the complex moving

333
00:23:26,990 --> 00:23:24,360
above the International Space Station

334
00:23:29,049 --> 00:23:27,000
from the poisk module then in front of

335
00:23:32,149 --> 00:23:29,059
the station then below the station

336
00:23:35,510 --> 00:23:32,159
aligning the forward docking Probe on

337
00:23:37,970 --> 00:23:35,520
the soyuz ms-23 with the prashal module

338
00:23:40,490 --> 00:23:37,980

attached to the naoka multi-purpose

339
00:23:42,890 --> 00:23:40,500
laboratory module on the earth facing

340
00:23:45,470 --> 00:23:42,900
side of the Russian segment of the

341
00:24:11,870 --> 00:23:45,480
International Space Station

342
00:24:20,810 --> 00:24:16,130
each other inhibit is on

343
00:24:23,090 --> 00:24:20,820
yes I confirm if I inherit this one

344
00:24:24,830 --> 00:24:23,100
is always crying education five minutes

345
00:24:26,330 --> 00:24:24,840
away now from the issuance of the

346
00:24:29,330 --> 00:24:26,340
command to begin the opening of the

347
00:24:33,110 --> 00:24:29,340
hooks holding the soyuz to the poisk

348
00:24:35,930 --> 00:24:33,120
module initiating today's relocation of

349
00:24:37,970 --> 00:24:35,940
the spacecraft and the three crew

350
00:24:40,130 --> 00:24:37,980
members on board who will ride home in

351
00:24:46,730 --> 00:24:40,140
this vehicle in late September to

352
00:24:54,950 --> 00:24:51,010
that Oscar is not illuminated on uh

353
00:24:57,409 --> 00:24:54,960
there's seven indicator panel seven it

354
00:25:07,490 --> 00:24:57,419
is not illuminated

355
00:25:11,870 --> 00:25:10,490
the poisk module that you see uh at the

356
00:25:15,590 --> 00:25:11,880
top of your screen

357
00:25:18,649 --> 00:25:15,600
also is used as an airlock for Russian

358
00:25:21,590 --> 00:25:18,659
based spacewalks

359
00:25:23,750 --> 00:25:21,600
and that is one of the reasons for

360
00:25:26,570 --> 00:25:23,760
today's relocation is to open up the

361
00:25:29,330 --> 00:25:26,580
poisk module for use for the Russian

362
00:25:33,169 --> 00:25:29,340
spacewalks that are on tap by procopiev

363
00:25:34,730 --> 00:25:33,179

and patellen on April 18th April 25th

364
00:25:37,789 --> 00:25:34,740
and May 4th

365
00:25:40,070 --> 00:25:37,799
the spacewalks will move a radiator from

366
00:25:43,370 --> 00:25:40,080
the rosfiat module to the naoka

367
00:25:46,250 --> 00:25:43,380
multi-purpose laboratory module then on

368
00:25:49,850 --> 00:25:46,260
April 25th to move an experiment airlock

369
00:25:54,169 --> 00:25:49,860
from Ross Fiat to naoka and then on May

370
00:25:57,289 --> 00:25:54,179
4th to deploy that radiator and hook up

371
00:26:00,289 --> 00:25:57,299
other hydraulic and fluid and electrical

372
00:26:03,890 --> 00:26:00,299
lines as the outfitting of naoka which

373
00:26:07,669 --> 00:26:03,900
was delayed back in December because of

374
00:26:10,010 --> 00:26:07,679
the coolant leak on the soyuz ms-22 just

375
00:26:12,049 --> 00:26:10,020
minutes before prokopiev and patellin

376
00:26:15,409 --> 00:26:12,059
were to begin in one of those spacewalks

377
00:26:19,430 --> 00:26:15,419
the spacewalks now rescheduled

378
00:26:25,549 --> 00:26:19,440
three of them over a two-week period to

379
00:26:29,390 --> 00:26:25,559
outfit naoka for future use has both a

380
00:26:31,490 --> 00:26:29,400
experiment module and a docking port the

381
00:26:34,669 --> 00:26:31,500
prashall module is a multi-hatched

382
00:26:39,049 --> 00:26:34,679
docking port able to receive multiple

383
00:26:44,350 --> 00:26:42,230
module again will be the destination for

384
00:26:48,049 --> 00:26:44,360
the next uncrewed

385
00:26:50,990 --> 00:26:48,059
progress resupply craft the ISS progress

386
00:26:53,990 --> 00:26:51,000
84 that will launch to the station on

387
00:26:57,110 --> 00:26:54,000
May 24th on a two orbit Rendezvous a

388
00:27:24,470 --> 00:26:57,120

dock to poisk the same port that soyuz

389
00:27:29,690 --> 00:27:26,810
I'll say you're going to activate the

390
00:27:31,130 --> 00:27:29,700
ssfa document transfer system in about

391
00:27:54,950 --> 00:27:31,140
one minute

392
00:28:02,450 --> 00:27:58,010
everything in order for undocking again

393
00:28:04,730 --> 00:28:02,460
scheduled at 3 45 a.m Central Time 4 45

394
00:28:07,610 --> 00:28:04,740
a.m Eastern Time

395
00:28:09,890 --> 00:28:07,620
so that procopia patellen and Rubio can

396
00:28:11,930 --> 00:28:09,900
begin about a 38-minute fly around to

397
00:28:14,930 --> 00:28:11,940
the station and a relocation and a

398
00:28:17,149 --> 00:28:14,940
redock to the preshaw module coming up

399
00:28:19,549 --> 00:28:17,159
on one minute until the issuance of the

400
00:28:23,870 --> 00:28:19,559
undocking command to begin the opening

401
00:28:25,250 --> 00:28:23,880
of the hooks holding soyuz to the poisk

402
00:28:29,350 --> 00:28:25,260
module of the International Space

403
00:28:35,690 --> 00:28:32,450
not illuminated

404
00:28:38,630 --> 00:28:35,700
guess 17 is illuminated

405
00:28:41,750 --> 00:28:38,640
the International Space Station now in

406
00:28:43,370 --> 00:28:41,760
free drift basically uh disabling all

407
00:28:45,950 --> 00:28:43,380
Thruster activity

408
00:28:53,690 --> 00:28:45,960
so as not to perturbate the undocking

409
00:28:57,830 --> 00:28:55,250
two minutes away from physical

410
00:29:11,810 --> 00:28:57,840
separation standing by for the issuance

411
00:29:23,830 --> 00:29:15,230
please send that 17 command

412
00:29:23,840 --> 00:29:32,090
at 11 43 30 the command was sent

413
00:29:39,590 --> 00:29:35,450

Hook's indication is not eliminated s13

414
00:29:41,990 --> 00:29:39,600
is not eliminated it is off

415
00:29:44,690 --> 00:29:42,000
f11

416
00:29:46,970 --> 00:29:44,700
illuminated

417
00:29:48,830 --> 00:29:46,980
the command now issued for the opening

418
00:29:50,389 --> 00:29:48,840
of the hooks holding the soyuz to the

419
00:29:52,730 --> 00:29:50,399
poisk module

420
00:30:00,950 --> 00:29:52,740
physical separation is expected about a

421
00:30:00,960 --> 00:30:06,110
and you are on page

422
00:30:06,120 --> 00:30:27,190
inaudible yes Andre

423
00:30:38,330 --> 00:30:30,470
mechanical uh connection uh indication

424
00:30:50,810 --> 00:30:40,130
standing by

425
00:30:56,570 --> 00:30:52,850
docking confirmed

426
00:31:01,010 --> 00:30:56,580
right on time at 3 45 a.m Central Time 4

427
00:31:03,409 --> 00:31:01,020
45 a.m Eastern Time soyuz ms-23 on its

428
00:31:13,130 --> 00:31:03,419
way with procopia of patellin and Frank

429
00:31:18,289 --> 00:31:15,110
I'm turning off the

430
00:31:20,029 --> 00:31:18,299
wide angle or standby

431
00:31:26,090 --> 00:31:20,039
all right

432
00:31:34,310 --> 00:31:29,630
ER or data command

433
00:31:38,029 --> 00:31:35,870
use power

434
00:31:39,350 --> 00:31:38,039
is illuminated

435
00:31:44,990 --> 00:31:39,360
not a

436
00:31:45,000 --> 00:31:52,909
copy

437
00:31:52,919 --> 00:31:59,149
the target is within the four squares

438
00:32:06,409 --> 00:32:01,669

you can see the Thruster firings on the

439
00:32:08,630 --> 00:32:06,419
ms-23 vehicle under the manual flying of

440
00:32:14,690 --> 00:32:08,640
station and soyuz Commander Sergey

441
00:32:19,549 --> 00:32:17,510
Mickey Mouse yes agency good back away

442
00:32:31,669 --> 00:32:19,559
rate reported by the Russian flight

443
00:32:41,889 --> 00:32:35,210
yeah so one two and guess so indication

444
00:32:58,130 --> 00:32:46,370
AGC operations are in progress

445
00:33:04,789 --> 00:33:01,549
we are not getting a good video so uh

446
00:33:07,669 --> 00:33:04,799
please report on your actions

447
00:33:17,090 --> 00:33:11,750
range is around 12 meters

448
00:33:23,149 --> 00:33:20,029
another good view of the soyuz ms-23

449
00:33:25,310 --> 00:33:23,159
that undocked from the station

450
00:33:29,450 --> 00:33:25,320
just about two and a half minutes ago at

451
00:33:30,649 --> 00:33:29,460
3 45 a.m Central Time 4 45 a.m Eastern

452
00:33:34,070 --> 00:33:30,659
Time

453
00:33:36,169 --> 00:33:34,080
beginning to back away above the

454
00:33:38,389 --> 00:33:36,179
International Space Station having

455
00:33:40,909 --> 00:33:38,399
Departed the poisk module on the space

456
00:33:43,310 --> 00:33:40,919
facing side of the Russian segment of

457
00:33:47,509 --> 00:33:43,320
the complex moving to a distance of

458
00:33:52,310 --> 00:33:47,519
between 40 and 60 meters away before it

459
00:33:55,430 --> 00:33:52,320
initiates a 180 degree rotation and then

460
00:34:01,490 --> 00:33:55,440
its fly around of the complex

461
00:34:06,470 --> 00:34:02,930
but

462
00:34:08,510 --> 00:34:06,480
the ballistics are not recommended for

463
00:34:11,990 --> 00:34:08,520

you to align early

464
00:34:12,000 --> 00:34:17,389
a modify

465
00:34:22,909 --> 00:34:19,190
so use

466
00:34:26,570 --> 00:34:22,919
a hard stop and then you would

467
00:34:32,270 --> 00:34:29,450
and perform the manual copies that so

468
00:34:34,490 --> 00:34:32,280
I'm starting at the heart stop and then

469
00:34:38,329 --> 00:34:34,500
an article

470
00:34:41,629 --> 00:34:38,339
a copy and please do not rush

471
00:34:43,250 --> 00:34:41,639
make sure that you do the fly around

472
00:34:46,690 --> 00:34:43,260
a line

473
00:34:49,070 --> 00:34:46,700
and the inaudible should be no more than

474
00:34:58,310 --> 00:34:49,080
0.3 copy

475
00:35:04,250 --> 00:35:01,550
the soyuz is currently about 20 meters

476
00:35:06,470 --> 00:35:04,260
away from the Poise module Port from

477
00:35:08,150 --> 00:35:06,480
which it separated just a few minutes

478
00:35:11,089 --> 00:35:08,160
ago

479
00:35:13,490 --> 00:35:11,099
this view uh

480
00:35:16,010 --> 00:35:13,500
is the engineering Crosshair view on the

481
00:35:19,310 --> 00:35:16,020
left side of your screen showing the

482
00:35:21,650 --> 00:35:19,320
poisk docking port as the soyuz backs

483
00:35:23,810 --> 00:35:21,660
away to a distance of some 40 to 60

484
00:35:26,150 --> 00:35:23,820
meters away

485
00:35:34,430 --> 00:35:26,160
where it will execute a 180 degree

486
00:35:41,150 --> 00:35:36,589
fly around is in progress

487
00:35:45,290 --> 00:35:41,160
current range is around 25. 25 meters

488
00:35:47,810 --> 00:35:45,300

now separating soyuz from the station

489
00:35:49,490 --> 00:35:47,820
please confirm if you can see all the

490
00:35:56,930 --> 00:35:49,500
indications on the vector will be

491
00:36:01,910 --> 00:35:59,270
the soyuz and the International Space

492
00:36:03,770 --> 00:36:01,920
Station flying some 260 miles above the

493
00:36:05,930 --> 00:36:03,780
Earth crossing the west coast of Africa

494
00:36:22,490 --> 00:36:05,940
on a Southwest to northeasterly

495
00:36:22,500 --> 00:36:26,990
I'd like to point out

496
00:36:27,000 --> 00:36:30,530
that

497
00:36:35,530 --> 00:36:33,050
if you're not using the dissipating

498
00:36:38,930 --> 00:36:35,540
screen then you'll have to use the

499
00:36:41,450 --> 00:36:38,940
focusing mode I yes

500
00:36:44,329 --> 00:36:41,460
already have already been done it's set

501
00:36:50,030 --> 00:36:44,339
at Infinity the current ranges

502
00:36:50,040 --> 00:36:54,109
33 around 33

503
00:36:54,119 --> 00:36:59,410
. so I use now about 33 meters away

504
00:37:11,210 --> 00:37:01,849
continuing to back away from the station

505
00:37:16,250 --> 00:37:14,089
data received here indicates that the

506
00:37:18,950 --> 00:37:16,260
pressure module docking port has been

507
00:37:22,550 --> 00:37:18,960
powered up in preparation for the

508
00:37:23,750 --> 00:37:22,560
arrival and contact and capture of the

509
00:37:26,510 --> 00:37:23,760
soyuz

510
00:37:29,510 --> 00:37:26,520
with the relocation docking of the red

511
00:37:32,150 --> 00:37:29,520
docking of the soyuz to prashal the

512
00:37:34,010 --> 00:37:32,160
multi-hatched node module that is

513
00:37:35,930 --> 00:37:34,020

attached to the naoka multi-purpose

514
00:37:39,410 --> 00:37:35,940
laboratory module that redocking

515
00:38:33,050 --> 00:37:39,420
scheduled at approximately 423

516
00:38:33,060 --> 00:38:38,569
the Rangers approaching 60 meters

517
00:38:47,690 --> 00:38:41,810
station keeping his uh in progress

518
00:38:51,410 --> 00:38:49,670
very smooth back away from the

519
00:38:52,970 --> 00:38:51,420
International Space Station under the

520
00:38:55,370 --> 00:38:52,980
control of

521
00:39:09,190 --> 00:38:55,380
ranges so I use commander and station

522
00:39:25,790 --> 00:39:12,589
and the soyuz now beginning its 180

523
00:39:31,370 --> 00:39:28,250
once this roll maneuver is complete

524
00:39:34,970 --> 00:39:31,380
prokopia then we'll fly the soyuz

525
00:39:37,190 --> 00:39:34,980
in a radial fly around to a point

526
00:39:39,050 --> 00:39:37,200
directly in front of the station and

527
00:39:47,089 --> 00:39:39,060
then below the station maintaining that

528
00:40:04,089 --> 00:39:49,849
90 degrees

529
00:40:08,630 --> 00:40:06,770
130 degrees

530
00:40:11,930 --> 00:40:08,640
which in um

531
00:41:04,849 --> 00:40:11,940
from the heart stop almost complete with

532
00:41:04,859 --> 00:41:09,050
approaching 180 degrees

533
00:41:16,670 --> 00:41:13,430
uh turn around is completed

534
00:41:21,410 --> 00:41:16,680
the roll maneuver now complete bacopia

535
00:41:23,750 --> 00:41:21,420
will soon begin to fly the soyuz

536
00:41:24,829 --> 00:41:23,760
from this point directly above the

537
00:41:33,230 --> 00:41:24,839
station

538
00:41:38,089 --> 00:41:36,650

we increase the lateral rates

539
00:41:43,190 --> 00:41:38,099
coffee

540
00:41:46,069 --> 00:41:43,200
11 55 45 which tooken probe extension

541
00:41:51,829 --> 00:41:48,349
copy

542
00:41:54,490 --> 00:41:51,839
and and the soyuz now has received a

543
00:41:57,910 --> 00:41:54,500
command to extend its docking probe in

544
00:42:00,890 --> 00:41:57,920
advance of its

545
00:42:03,170 --> 00:42:00,900
forthcoming red docking to the prashal

546
00:42:05,329 --> 00:42:03,180
module the multi-hatched node module

547
00:42:08,030 --> 00:42:05,339
that is attached to the naoka

548
00:42:10,849 --> 00:42:08,040
multi-purpose laboratory module that's

549
00:42:12,290 --> 00:42:10,859
on the earth facing side of the Russian

550
00:42:16,130 --> 00:42:12,300
segment of the International Space

551
00:42:16,140 --> 00:42:22,810
five

552
00:42:27,410 --> 00:42:25,130
patellen and Rubio running about four

553
00:42:30,650 --> 00:42:27,420
minutes ahead of their predicted

554
00:42:33,589 --> 00:42:30,660
timeline for this relocation today again

555
00:42:35,990 --> 00:42:33,599
the relocation serving a dual purpose to

556
00:42:38,870 --> 00:42:36,000
open up the poisk module for upcoming

557
00:42:40,730 --> 00:42:38,880
Russian spacewalks by procopia and

558
00:42:44,390 --> 00:42:40,740
patellin that will get underway on April

559
00:42:47,450 --> 00:42:44,400
18th and to clear the poisk for the

560
00:42:53,930 --> 00:42:47,460
arrival of the ISS progress 84 cargo

561
00:43:00,050 --> 00:42:56,870
once a redocked to the prashal module

562
00:43:04,130 --> 00:43:00,060
the soyuz ms-23 will remain at that

563
00:43:06,950 --> 00:43:04,140

pressure port until Rubio precopiev and

564
00:43:18,770 --> 00:43:06,960
patellen depart the station for good

565
00:43:18,780 --> 00:43:30,109
and the fly around is now underway

566
00:43:34,790 --> 00:43:32,809
large diameter shows less than four

567
00:43:46,250 --> 00:43:34,800
squares and the range is around 60

568
00:43:51,230 --> 00:43:49,250
which is extended and that 13 is

569
00:43:55,430 --> 00:43:51,240
illuminated

570
00:44:04,550 --> 00:44:01,210
the arranges around for squares or 55

571
00:44:07,910 --> 00:44:04,560
meters popping

572
00:44:10,490 --> 00:44:07,920
the soyuz docking probe has now been

573
00:44:13,970 --> 00:44:10,500
extended as planned everything going

574
00:44:15,829 --> 00:44:13,980
extremely well very smoothly

575
00:44:18,349 --> 00:44:15,839
periodically you can see Thruster

576
00:44:21,470 --> 00:44:18,359
firings as procopia manually flies the

577
00:44:23,750 --> 00:44:21,480
soyuz currently to a point from directly

578
00:44:31,920 --> 00:44:23,760
above the station to a point directly in

579
00:44:31,930 --> 00:44:48,410
[Applause]

580
00:44:54,770 --> 00:44:51,430
the angular size is

581
00:45:03,829 --> 00:44:54,780
4.5 squares and the current range is

582
00:45:11,390 --> 00:45:07,910
the 9 is eliminated at 11 55.09

583
00:45:13,849 --> 00:45:11,400
SM probe was extended and ssopath

584
00:45:17,329 --> 00:45:13,859
enjoyable

585
00:45:25,970 --> 00:45:17,339
which the docking probe extension on

586
00:45:32,210 --> 00:45:28,730
this soyuz again was launched on

587
00:45:34,970 --> 00:45:32,220
February 24th uncrewed from the baikonur

588
00:45:37,910 --> 00:45:34,980

cosmodrome in Kazakhstan two days later

589
00:45:40,010 --> 00:45:37,920
executing an automated docking to the

590
00:45:42,770 --> 00:45:40,020
poisk module to replace the damaged

591
00:45:45,589 --> 00:45:42,780
soyuz ms-22 spacecraft

592
00:45:48,050 --> 00:45:45,599
that undocked from the station without a

593
00:45:50,569 --> 00:45:48,060
crew on board on March 28th

594
00:46:01,000 --> 00:45:50,579
Landing by Parachute on the step of

595
00:46:39,910 --> 00:46:18,640
[Applause]

596
00:46:45,230 --> 00:46:42,349
or in front of the International Space

597
00:46:48,230 --> 00:46:45,240
Station essentially uh looking down the

598
00:46:51,290 --> 00:46:48,240
barrel of the docking port of the zvezda

599
00:46:53,390 --> 00:46:51,300
service module as it continues its fly

600
00:46:56,030 --> 00:46:53,400
around under the control of Sergey

601
00:47:15,770 --> 00:46:56,040
prokopiev maintaining a distance of

602
00:47:19,670 --> 00:47:17,210
oh

603
00:47:22,230 --> 00:47:19,680
very nice you just have pets current

604
00:47:43,920 --> 00:47:22,240
range of five five

605
00:47:46,390 --> 00:47:45,710
[Applause]

606
00:47:48,109 --> 00:47:46,400
[Music]

607
00:47:49,790 --> 00:47:48,119
[Applause]

608
00:47:55,790 --> 00:47:49,800
we had

609
00:47:55,800 --> 00:48:02,150
current range is around 60 meters

610
00:48:02,160 --> 00:48:31,970
copy

611
00:48:38,089 --> 00:48:35,690
this view from the engineering camera on

612
00:48:40,190 --> 00:48:38,099
the soyuz vehicle

613
00:48:43,790 --> 00:48:40,200

showing an excellent view of the ISS

614
00:48:45,710 --> 00:48:43,800
progress 83 cargo craft that is docked

615
00:48:47,270 --> 00:48:45,720
to the AFT end of the zvezda service

616
00:48:50,089 --> 00:48:47,280
module

617
00:48:53,150 --> 00:48:50,099
Sergey procopia of continuing to fly the

618
00:48:54,170 --> 00:48:53,160
soyuz to a point now directly below the

619
00:48:56,270 --> 00:48:54,180
station

620
00:49:00,109 --> 00:48:56,280
and now in the field of view you can see

621
00:49:03,349 --> 00:49:00,119
that bulbous module that is the pressure

622
00:49:06,050 --> 00:49:03,359
module to which procopia will align the

623
00:49:09,170 --> 00:49:06,060
soyuz forward docking probe and move in

624
00:49:11,329 --> 00:49:09,180
for Final Approach and a red docking to

625
00:49:42,069 --> 00:49:11,339
the International Space Station

626
00:49:47,450 --> 00:49:44,690
the Sous and the International Space

627
00:49:49,430 --> 00:49:47,460
Station flying in tandem moving from

628
00:49:52,370 --> 00:49:49,440
Southwest to Northeast in an orbit

629
00:49:53,450 --> 00:49:52,380
incline 51.6 degrees to either side of

630
00:49:55,430 --> 00:49:53,460
the Equator

631
00:49:56,930 --> 00:49:55,440
about to pass the border between

632
00:50:00,589 --> 00:49:56,940
Southern Russia

633
00:50:03,170 --> 00:50:00,599
and Western Kazakhstan

634
00:50:08,569 --> 00:50:03,180
angular sizes

635
00:50:08,579 --> 00:50:25,450
copy

636
00:50:31,849 --> 00:50:28,849
and again the wide view showing now the

637
00:50:34,910 --> 00:50:31,859
soyuz as it uh slowly but surely

638
00:50:37,910 --> 00:50:34,920

approaches uh its alignment Point some

639
00:50:40,730 --> 00:50:37,920
55 meters away from the prashall module

640
00:50:43,790 --> 00:50:40,740
that's on the left side of your screen

641
00:50:47,030 --> 00:50:43,800
that is the multi-hatched node module

642
00:50:49,370 --> 00:50:47,040
that is attached to the Nader or

643
00:51:02,630 --> 00:50:49,380
earth-facing side of the naoka

644
00:51:11,770 --> 00:51:05,510
and I am continuing to move

645
00:51:19,069 --> 00:51:16,190
the fly around is now complete the soyuz

646
00:51:21,049 --> 00:51:19,079
precisely aligning itself now with the

647
00:51:24,349 --> 00:51:21,059
person module

648
00:51:26,329 --> 00:51:24,359
in advance of uh a short period of

649
00:51:35,809 --> 00:51:26,339
station keeping

650
00:51:40,190 --> 00:51:38,270
and you see the pressure docking port

651
00:51:42,530 --> 00:51:40,200
now in the field of view from the

652
00:51:50,030 --> 00:51:42,540
Crosshair engineering camera on the

653
00:51:56,210 --> 00:51:53,870
I'm aligned with the uh

654
00:51:59,089 --> 00:51:56,220
back and forth boxes

655
00:52:10,670 --> 00:52:01,730
procopia reporting good alignment with

656
00:52:16,309 --> 00:52:13,069
fun please send the command on time

657
00:52:17,950 --> 00:52:16,319
command sent copy

658
00:52:20,809 --> 00:52:17,960
that's

659
00:52:23,030 --> 00:52:20,819
1206. brucopia of running about five

660
00:52:26,390 --> 00:52:23,040
minutes ahead of schedule

661
00:52:30,770 --> 00:52:26,400
set no problem with the timing

662
00:52:37,730 --> 00:52:34,430
soyuz flying 260 miles over Northwestern

663
00:52:43,970 --> 00:52:40,910

copy the current range is around 40

664
00:52:53,630 --> 00:52:48,410
and I am our continuing the approach to

665
00:52:53,640 --> 00:52:59,930
to station keeping

666
00:53:07,670 --> 00:53:02,569
and you can continue at the rate of

667
00:53:11,690 --> 00:53:07,680
0.2.3 up to a 20 meter range and then on

668
00:53:11,700 --> 00:53:33,230
armed

669
00:53:40,609 --> 00:53:36,290
and continue to align

670
00:54:29,089 --> 00:53:43,670
the current range is 33 meters

671
00:54:34,190 --> 00:54:31,370
everything continuing to go very

672
00:54:37,670 --> 00:54:34,200
smoothly with the

673
00:54:39,349 --> 00:54:37,680
relocation of the soyuz ms-23 that you

674
00:54:42,470 --> 00:54:39,359
see in the field of view

675
00:54:49,069 --> 00:54:42,480
in the center section of the soyuz The

676
00:54:49,079 --> 00:54:53,230
current range is 25

677
00:54:58,910 --> 00:54:56,450
Final Approach now underway the soyuz

678
00:55:02,150 --> 00:54:58,920
now just 25 meters away from its final

679
00:55:27,069 --> 00:55:02,160
destination the prashal module the node

680
00:55:33,710 --> 00:55:31,130
strapped in to The Descent module

681
00:55:35,930 --> 00:55:33,720
Sergey prokopiev in the center seat of

682
00:55:38,450 --> 00:55:35,940
soyuz commander flanked on his left by

683
00:55:40,130 --> 00:55:38,460
Dimitri patelan and to his right NASA's

684
00:55:41,990 --> 00:55:40,140
Frank Rubio

685
00:55:45,650 --> 00:55:42,000
this again the vehicle that the three

686
00:55:53,990 --> 00:55:45,660
will ride home to Earth on on September

687
00:55:59,089 --> 00:55:57,770
after the soyuz redox to the prashal

688
00:56:01,010 --> 00:55:59,099

module

689
00:56:03,829 --> 00:56:01,020
and the hooks are closed to form a hard

690
00:56:06,109 --> 00:56:03,839
mate there will be about 90 minutes for

691
00:56:07,849 --> 00:56:06,119
the crew to conduct leak checks to make

692
00:56:10,730 --> 00:56:07,859
sure that we have an airtight seal

693
00:56:13,430 --> 00:56:10,740
between the soyuz and pressure before

694
00:56:15,109 --> 00:56:13,440
the hatches will be open to allow the

695
00:56:35,390 --> 00:56:15,119
three crew members back inside the

696
00:56:35,400 --> 00:56:40,309
Sergey

697
00:56:46,970 --> 00:56:43,490
on beccu video monitor

698
00:56:51,290 --> 00:56:46,980
I am seeing inaudible please repeat your

699
00:56:51,300 --> 00:56:57,470
copy

700
00:56:57,480 --> 00:57:05,210
you are coming in very long

701
00:57:11,390 --> 00:57:08,870
we are seeing a

702
00:57:12,710 --> 00:57:11,400
circular Target on the second video

703
00:57:15,650 --> 00:57:12,720
monitor

704
00:57:23,690 --> 00:57:15,660
or do you see can you confirm yes

705
00:57:28,910 --> 00:57:26,089
of course here is aligned

706
00:57:33,530 --> 00:57:28,920
the target is at the center

707
00:57:36,410 --> 00:57:33,540
approximately 5.5 squares lower

708
00:57:50,349 --> 00:57:36,420
continuing

709
00:57:55,490 --> 00:57:52,970
again the view of a Russian ground

710
00:57:57,650 --> 00:57:55,500
stations from the soyuz engineering

711
00:58:01,250 --> 00:57:57,660
camera

712
00:58:04,910 --> 00:58:01,260
as a procopia slowly but surely

713
00:58:07,190 --> 00:58:04,920

flies soyuz in for its redocking to the

714
00:58:10,309 --> 00:58:07,200
prashal module

715
00:58:12,650 --> 00:58:10,319
that's the node module multiple hatches

716
00:59:32,990 --> 00:58:12,660
for multiple vehicles to arrive at the

717
00:59:33,000 --> 00:59:39,170
the target is of the center

718
00:59:39,180 --> 00:59:45,770
on the current range of 18 meters copy

719
00:59:53,089 --> 00:59:48,410
a copy of confirming 18 meters now

720
01:00:35,809 --> 00:59:55,190
soyuz in the International Space Station

721
01:00:42,410 --> 01:00:39,410
to recap so far soyuz undocked from the

722
01:00:44,450 --> 01:00:42,420
poisk module on the space-facing side of

723
01:00:46,190 --> 01:00:44,460
the International Space Station at 3 45

724
01:00:49,309 --> 01:00:46,200
a.m Central

725
01:00:52,010 --> 01:00:49,319
4 45 a.m Eastern Time

726
01:00:54,049 --> 01:00:52,020
backed away from that docking port to a

727
01:00:57,950 --> 01:00:54,059
distance of some

728
01:01:00,230 --> 01:00:57,960
40 meters or so began a fly around under

729
01:01:03,470 --> 01:01:00,240
the manual control of

730
01:01:06,349 --> 01:01:03,480
Rose Cosmos Cosmonaut and soyuz

731
01:01:08,930 --> 01:01:06,359
Commander Sergey prokopiev

732
01:01:11,690 --> 01:01:08,940
completed the fly around and now is in

733
01:01:33,230 --> 01:01:11,700
Final Approach for a redocking to the

734
01:01:39,349 --> 01:01:36,109
Sergey just perform

735
01:01:42,890 --> 01:01:39,359
station keeping up the mirrors and the

736
01:01:44,930 --> 01:01:42,900
target should be less than three squares

737
01:01:48,530 --> 01:01:44,940
at that point and continue with the

738
01:01:48,540 --> 01:01:52,370

a copy

739
01:01:52,380 --> 01:01:58,010
current range is 15 meters

740
01:02:03,109 --> 01:02:00,170
copy 15.

741
01:02:52,730 --> 01:02:03,119
15 meters down separating soyuz from pre

742
01:03:00,109 --> 01:02:56,329
current range is 12. the target is in

743
01:03:00,119 --> 01:03:34,730
copy

744
01:03:45,230 --> 01:03:38,450
so I use now flying over Southeastern

745
01:03:50,510 --> 01:03:47,450
about to move inside 10 meters from

746
01:04:58,569 --> 01:03:54,170
the range is 10 meters

747
01:05:13,730 --> 01:05:02,630
smoothly closing in for its uh redocking

748
01:05:19,849 --> 01:05:16,609
you can see the docking probe fully

749
01:05:21,650 --> 01:05:19,859
extended from the orbital module or the

750
01:05:35,390 --> 01:05:21,660
uppermost section of the soyuz

751
01:05:35,400 --> 01:05:39,470
the range is seven meters

752
01:05:43,430 --> 01:05:41,390
and getting ready to perform station

753
01:05:45,890 --> 01:05:43,440
keeping

754
01:05:49,190 --> 01:05:45,900
there will be a very brief period of

755
01:05:50,750 --> 01:05:49,200
station keeping one more check of the

756
01:06:00,410 --> 01:05:50,760
precise alignment of that forward

757
01:06:10,309 --> 01:06:02,870
that brief period of station keeping

758
01:06:14,809 --> 01:06:12,109
Target is aligned with the center

759
01:06:19,309 --> 01:06:14,819
current range is five

760
01:06:19,319 --> 01:06:31,430
set up the agency mode

761
01:06:36,890 --> 01:06:33,829
station keeping is in progress

762
01:06:47,029 --> 01:06:39,890
and procopia let's put the brakes on for

763
01:06:52,010 --> 01:06:49,970

and they now have a final go from

764
01:07:12,670 --> 01:06:52,020
Russian flight controllers for Final

765
01:07:19,309 --> 01:07:16,490
as the station and soyuz fly 260 miles

766
01:07:22,849 --> 01:07:19,319
over Osaka Japan

767
01:07:25,130 --> 01:07:22,859
a great view of the ms-23 spacecraft now

768
01:07:27,470 --> 01:07:25,140
just two meters away from contact and

769
01:07:47,029 --> 01:07:27,480
capture

770
01:07:49,569 --> 01:07:47,039
docking occurring at 4 22 a.m Central

771
01:07:52,130 --> 01:07:49,579
Time 5 22 a.m Eastern Time

772
01:07:55,730 --> 01:07:52,140
congratulations was a successful be

773
01:08:00,650 --> 01:07:58,069
oh thank you please accept our

774
01:08:05,329 --> 01:08:00,660
congratulations as well

775
01:08:08,630 --> 01:08:05,339
I'm activating the translational

776
01:08:10,730 --> 01:08:08,640
and controller copy the docking probe

777
01:08:12,130 --> 01:08:10,740
now retracting to form a hard mate

778
01:08:15,289 --> 01:08:12,140
between

779
01:08:18,110 --> 01:08:15,299
soyuz and per shell it was a 37 minute

780
01:08:21,950 --> 01:08:18,120
Transit from the poised module to the

781
01:08:25,189 --> 01:08:21,960
personal module a Flawless execution by

782
01:08:28,189 --> 01:08:25,199
soyuz Commander Sergey procopiov along

783
01:08:32,390 --> 01:08:28,199
with his soyuz crewmates Dimitri Patel

784
01:08:34,970 --> 01:08:32,400
of Rose Cosmos and Frank Rubio of NASA

785
01:08:36,370 --> 01:08:34,980
a great job

786
01:08:39,650 --> 01:08:36,380
also

787
01:08:42,050 --> 01:08:39,660
my uh best regards to you guys and I

788
01:08:44,749 --> 01:08:42,060

guess I'll talk to you next time

789
01:08:50,630 --> 01:08:44,759
during the progress operations

790
01:08:56,390 --> 01:08:53,870
once again the redocking of soyuz to the

791
01:08:59,990 --> 01:08:56,400
international space stations pre-shaw

792
01:09:04,189 --> 01:09:00,000
module occurring at 4 22 a.m Central

793
01:09:06,829 --> 01:09:04,199
Time 5 22 a.m Eastern Time

794
01:09:09,890 --> 01:09:06,839
as the International Space Station and

795
01:09:17,570 --> 01:09:09,900
soyuz flew just uh off the east coast of

796
01:09:17,580 --> 01:09:22,550
ready to report on the parameters

797
01:09:27,849 --> 01:09:25,189
the historical section one pressure is

798
01:09:31,450 --> 01:09:27,859
one where three

799
01:09:41,570 --> 01:09:31,460
and for number two is one eight three

800
01:10:05,510 --> 01:09:43,789
copy

801
01:10:21,530 --> 01:10:10,130
so the actions on page 106 I am turning

802
01:10:34,090 --> 01:10:24,950
and if we please monitor everything and

803
01:10:41,030 --> 01:10:38,510
closing our one evolve

804
01:10:44,810 --> 01:10:41,040
this is Mission Control Houston uh once

805
01:10:46,790 --> 01:10:44,820
again the soyuz ms-23 has successfully

806
01:10:51,709 --> 01:10:46,800
redocked to the International Space

807
01:10:57,350 --> 01:10:54,709
after a 37-minute fly around

808
01:11:01,390 --> 01:10:57,360
undocking from the poisk module at 3 45

809
01:11:05,630 --> 01:11:01,400
a.m Central Time 4 45 a.m Eastern

810
01:11:12,590 --> 01:11:05,640
redocking at 4 22 a.m Central 5 22 a.m

811
01:11:21,050 --> 01:11:14,689
we are waiting for the hooks to close

812
01:11:27,470 --> 01:11:24,530
the departure from the poisk module

813
01:11:30,050 --> 01:11:27,480

opens up poisk for a trio of Russian

814
01:11:33,350 --> 01:11:30,060
spacewalks set to begin from the poisk

815
01:11:36,050 --> 01:11:33,360
airlock on April 18th

816
01:11:37,970 --> 01:11:36,060
that will stretch through May 4th and

817
01:11:42,050 --> 01:11:37,980
the arrival in late May of the next

818
01:12:16,790 --> 01:11:42,060
progress resupply craft the ISS progress

819
01:12:22,330 --> 01:12:19,850
uh Sergey please keep monitoring SS

820
01:12:25,610 --> 01:12:22,340
weapon docking and internal transfer

821
01:12:28,010 --> 01:12:25,620
mode execution

822
01:12:30,410 --> 01:12:28,020
and reports on the command's execution

823
01:12:33,530 --> 01:12:30,420
yes standing by

824
01:12:36,850 --> 01:12:33,540
the inaudible is eliminated hooks closed

825
01:12:41,149 --> 01:12:36,860
is illuminated

826
01:12:45,350 --> 01:12:41,159
standing by uh for authentications to

827
01:13:06,590 --> 01:12:45,360
illuminate they have not come on yet

828
01:13:23,270 --> 01:13:09,590
if the Titian does not eliminate could

829
01:13:27,770 --> 01:13:25,490
we have confirmation that the soyuz

830
01:13:28,850 --> 01:13:27,780
hooks have closed now standing by for

831
01:13:30,950 --> 01:13:28,860
the final

832
01:14:10,030 --> 01:13:30,960
step here that would be the closure of

833
01:14:17,270 --> 01:14:15,649
Sergey do you see s 13 eliminated

834
01:14:20,750 --> 01:14:17,280
no not yet

835
01:14:25,070 --> 01:14:20,760
uh the lectures are retracted and this

836
01:14:26,950 --> 01:14:25,080
led is on but s13 is not eliminated okay

837
01:14:28,550 --> 01:14:26,960
but the

838
01:14:35,330 --> 01:14:28,560

d

839
01:14:40,310 --> 01:14:35,340
what about D15

840
01:14:40,320 --> 01:14:47,510
uh you cannot say it again please

841
01:14:52,910 --> 01:14:49,430
all right uh

842
01:15:06,290 --> 01:14:52,920
uh send s13 manually

843
01:15:13,130 --> 01:15:11,149
12 29 15 is the time of s13

844
01:15:17,870 --> 01:15:13,140
issues

845
01:15:24,410 --> 01:15:17,880
yes now the apple is on uh transfer

846
01:15:28,970 --> 01:15:26,330
space station flying into an orbital

847
01:15:31,250 --> 01:15:28,980
Sunset over the Pacific Ocean Rod

848
01:15:36,910 --> 01:15:31,260
standing by for a confirmation of the

849
01:15:43,610 --> 01:15:42,410
uh on so far it's still eliminated copy

850
01:15:45,530 --> 01:15:43,620
okay

851
01:15:50,630 --> 01:15:45,540
do you understand correctly that you are

852
01:15:50,640 --> 01:16:00,970
is on we are ready to turn it off

853
01:16:07,430 --> 01:16:05,090
d11 SM Rod is it retracted LED

854
01:16:09,350 --> 01:16:07,440
eliminated okay then you'll go to

855
01:16:12,470 --> 01:16:09,360
Genesis repair off

856
01:16:15,350 --> 01:16:12,480
this is what they often work

857
01:16:17,390 --> 01:16:15,360
I sent the command

858
01:16:27,770 --> 01:16:17,400
the

859
01:16:31,310 --> 01:16:27,780
five minute measurement yes go ahead

860
01:16:37,189 --> 01:16:34,430
as a pressure 779

861
01:16:40,270 --> 01:16:37,199
Delta plus one

862
01:16:43,610 --> 01:16:40,280
Barrel pressure 749

863
01:16:45,830 --> 01:16:43,620

Delta one plus one

864
01:16:47,870 --> 01:16:45,840
and then instrumentation compartment

865
01:17:01,689 --> 01:16:47,880
case for nine

866
01:17:07,689 --> 01:17:04,850
in addition give me the oxygen parcel

867
01:17:14,510 --> 01:17:07,699
partial pressure

868
01:17:14,520 --> 01:17:31,430
okay

869
01:17:35,810 --> 01:17:33,830
this view of the Russian

870
01:17:39,169 --> 01:17:35,820
flight control room

871
01:17:41,930 --> 01:17:39,179
at the Russian Mission Control Center in

872
01:17:44,090 --> 01:17:41,940
Coral youth outside Moscow to execute in

873
01:17:45,470 --> 01:17:44,100
page 107.

874
01:17:48,350 --> 01:17:45,480
carpet

875
01:17:50,990 --> 01:17:48,360
the soyuz hooks are closed at the

876
01:17:53,570 --> 01:17:51,000
pressure module waiting for confirmation

877
01:18:33,910 --> 01:17:53,580
that the prashall module hooks

878
01:18:38,750 --> 01:18:36,890
and we are receiving a Telemetry here in

879
01:20:12,669 --> 01:18:38,760
Mission Control indicating that the

880
01:20:17,510 --> 01:20:15,830
should be just a moment or two before we

881
01:21:41,750 --> 01:20:17,520
receive confirmation that the prashall

882
01:23:16,189 --> 01:21:44,990
the pressure hooks continue to drive

883
01:23:20,990 --> 01:23:18,830
foreign and Russian flight controllers

884
01:23:23,149 --> 01:23:21,000
have now confirmed the closure of the

885
01:23:25,610 --> 01:23:23,159
pressure hooks

886
01:23:29,209 --> 01:23:25,620
so we have a hard mate now between the

887
01:23:31,790 --> 01:23:29,219
soyuz ms-23 and the prashal module

888
01:23:35,630 --> 01:23:31,800

following a Flawless undocking and

889
01:23:38,450 --> 01:23:35,640
redocking of the soyuz vehicle with uh

890
01:23:40,790 --> 01:23:38,460
Frank Rubio of NASA and Rose Cosmos

891
01:23:42,770 --> 01:23:40,800
Cosmonaut Sergey prokopiev and Dimitri

892
01:23:45,890 --> 01:23:42,780
patelan on board

893
01:23:48,229 --> 01:23:45,900
the trio undocked from the poisk module

894
01:23:49,850 --> 01:23:48,239
on the space facing side of the Russian

895
01:23:53,930 --> 01:23:49,860
segment of the International Space

896
01:23:55,610 --> 01:23:53,940
Station at 3 45 a.m Central 4 45 a.m

897
01:23:58,669 --> 01:23:55,620
Eastern Time

898
01:24:02,450 --> 01:23:58,679
procopia manually flew the soyuz to a

899
01:24:05,390 --> 01:24:02,460
distance of almost 50 meters above the

900
01:24:07,250 --> 01:24:05,400
station then in front of the station and

901
01:24:09,229 --> 01:24:07,260
then below the station a radial fly

902
01:24:13,130 --> 01:24:09,239
around of the complex

903
01:24:17,390 --> 01:24:13,140
before moving in for Final Approach

904
01:24:20,870 --> 01:24:17,400
and redocking that occurred at 4 22 a.m

905
01:24:23,810 --> 01:24:20,880
Central 5 22 a.m Eastern Time

906
01:24:33,910 --> 01:24:23,820
a 37-minute fly around and redocking

907
01:24:40,910 --> 01:24:37,850
the relocation of the soyuz vehicle

908
01:24:44,810 --> 01:24:40,920
today opens up the poisk module

909
01:24:47,689 --> 01:24:44,820
and it's airlock for a trio of Russian

910
01:24:51,290 --> 01:24:47,699
spacewalks that will begin on April 18th

911
01:24:53,450 --> 01:24:51,300
by procopia Van patellen to uh

912
01:24:55,490 --> 01:24:53,460
outfit the naoka multi-purpose

913
01:24:59,630 --> 01:24:55,500

laboratory module

914
01:25:03,110 --> 01:24:59,640
with the relocation of a radiator from

915
01:25:05,390 --> 01:25:03,120
the rosfiat module to naoka

916
01:25:08,450 --> 01:25:05,400
then on the second of the spacewalks the

917
01:25:10,970 --> 01:25:08,460
relocation of an experiment airlock from

918
01:25:13,310 --> 01:25:10,980
rosfiat to naoka

919
01:25:15,649 --> 01:25:13,320
and then the deployment of that radiator

920
01:25:18,530 --> 01:25:15,659
and the hookup of other fluid and

921
01:25:20,510 --> 01:25:18,540
electrical lines on Majorca on the third

922
01:25:21,590 --> 01:25:20,520
of the three spacewalk schedule for May

923
01:25:24,229 --> 01:25:21,600
4th

924
01:25:27,229 --> 01:25:24,239
poisk now also is available for the

925
01:25:30,110 --> 01:25:27,239
arrival of the ISS progress 84 cargo

926
01:25:33,050 --> 01:25:30,120
ship that is scheduled to launch on May

927
01:25:35,270 --> 01:25:33,060
24th to the international Outpost

928
01:25:38,510 --> 01:25:35,280
so with that we'll wrap up our coverage

929
01:25:40,970 --> 01:25:38,520
for today a Flawless undocking and

930
01:25:44,570 --> 01:25:40,980
redocking the relocation of the soyuz

931
01:25:47,090 --> 01:25:44,580
ms-23 now complete with a hard mate of

932
01:25:49,130 --> 01:25:47,100
the soyuz vehicle to the prashal module

933
01:25:51,350 --> 01:25:49,140
on the earth-facing side of the

934
01:25:53,090 --> 01:25:51,360
International Space Station you can

935
01:25:56,090 --> 01:25:53,100
follow all the activities of the

936
01:25:59,209 --> 01:25:56,100
Expedition 69 crew on the website at

937
01:26:01,430 --> 01:25:59,219
nasa.gov station and until we see you

938
01:26:02,750 --> 01:26:01,440

again have a good day this is Mission