



1  
00:00:07,430 --> 00:00:04,710  
just one minute to launch now the soyuz

2  
00:00:09,750 --> 00:00:07,440  
is on internal power automatic locks

3  
00:00:11,910 --> 00:00:09,760  
launched increasers have been activated

4  
00:00:15,669 --> 00:00:11,920  
and the first umbilical tower will be

5  
00:00:19,590 --> 00:00:17,510  
we're now less than a minute away from

6  
00:00:26,310 --> 00:00:19,600  
the launch of the 25th expedition crew

7  
00:00:26,320 --> 00:00:33,430  
there's that first umbilical tower

8  
00:00:33,440 --> 00:00:49,430  
t-minus 30 seconds

9  
00:00:56,549 --> 00:00:52,069  
t-minus 15 seconds second umbilical

10  
00:00:59,990 --> 00:00:58,150  
first stage engine should be at flight

11  
00:01:00,869 --> 00:01:00,000  
speed

12  
00:01:02,150 --> 00:01:00,879  
three

13  
00:01:05,030 --> 00:01:02,160

two

14

00:01:07,429 --> 00:01:05,040

one fueling tower separates and booster

15

00:01:09,750 --> 00:01:07,439

ignition

16

00:01:12,310 --> 00:01:09,760

and liftoff liftoff of the soyuz rocket

17

00:01:14,070 --> 00:01:12,320

as alexander kaliri scott kelly and oleg

18

00:01:15,910 --> 00:01:14,080

krapochka begin their journey to the

19

00:01:16,710 --> 00:01:15,920

international space station

20

00:01:23,670 --> 00:01:16,720

and

21

00:01:28,070 --> 00:01:25,749

we feel great everything's in order on

22

00:01:31,590 --> 00:01:30,069

everything going well good pitch program

23

00:01:33,190 --> 00:01:31,600

and soyuz is heading toward a link up

24

00:01:35,270 --> 00:01:33,200

with the international space station two

25

00:01:38,230 --> 00:01:35,280

days from now one and two are operating

26

00:01:41,670 --> 00:01:38,240

nominally 30 seconds of flight

27

00:01:42,310 --> 00:01:41,680

we still feel good

28

00:01:44,310 --> 00:01:42,320

and

29

00:01:46,630 --> 00:01:44,320

we are experiencing

30

00:01:47,749 --> 00:01:46,640

flight vibration and i'm starting to

31

00:01:48,789 --> 00:01:47,759

experience

32

00:01:51,109 --> 00:01:48,799

g-force

33

00:01:52,789 --> 00:01:51,119

popping

34

00:01:55,190 --> 00:01:52,799

good first stage performance soyuz

35

00:01:57,350 --> 00:01:55,200

delivering 102 tons of thrust from its

36

00:01:59,670 --> 00:01:57,360

four boosters and single engine

37

00:02:01,910 --> 00:01:59,680

the first stage of the soyuz measured 68

38

00:02:04,069 --> 00:02:01,920

feet in length and

39

00:02:05,590 --> 00:02:04,079

two feet in diameter burning liquid fuel

40

00:02:06,950 --> 00:02:05,600

for the first two minutes and six

41

00:02:10,869 --> 00:02:06,960

seconds of the

42

00:02:15,670 --> 00:02:10,879

nominal copy we feel fine

43

00:02:33,589 --> 00:02:18,949

60 seconds into your flight

44

00:02:33,599 --> 00:02:42,309

all systems are nominal

45

00:02:46,470 --> 00:02:44,550

thrusters of stages one and two are

46

00:02:59,030 --> 00:02:46,480

operating nominally

47

00:02:59,040 --> 00:03:06,790

110 seconds

48

00:03:10,070 --> 00:03:08,229

coming up on the two-minute mark

49

00:03:11,750 --> 00:03:10,080

jettison of four

50

00:03:13,830 --> 00:03:11,760

strap-on boosters these have completed

51  
00:03:16,790 --> 00:03:13,840  
their jobs and will drop away at an

52  
00:03:21,190 --> 00:03:16,800  
altitude of 28 statute miles soyuz is

53  
00:03:24,390 --> 00:03:21,200  
traveling at about 3 350 miles an hour

54  
00:03:27,589 --> 00:03:26,309  
and we feel fine everything's great on

55  
00:03:42,789 --> 00:03:27,599  
board

56  
00:03:42,799 --> 00:03:48,789  
second stage thrusters are nominal

57  
00:03:53,350 --> 00:03:50,869  
shroud has

58  
00:03:57,030 --> 00:03:53,360  
been jettisoned

59  
00:04:00,710 --> 00:03:59,030  
escape tower and launch trial jettisons

60  
00:04:07,990 --> 00:04:00,720  
as you just heard there that happens at

61  
00:04:14,470 --> 00:04:12,470  
and as usual we're experiencing slight

62  
00:04:19,270 --> 00:04:14,480  
bias and roll

63  
00:04:22,629 --> 00:04:21,110

190 seconds

64

00:04:25,510 --> 00:04:22,639

your flight

65

00:04:27,189 --> 00:04:25,520

parameters are all nominal

66

00:04:28,550 --> 00:04:27,199

over three minutes now traveling at a

67

00:04:30,550 --> 00:04:28,560

speed of about

68

00:04:32,550 --> 00:04:30,560

forty seven hundred miles an hour two

69

00:04:34,790 --> 00:04:32,560

hundred seconds

70

00:04:38,390 --> 00:04:34,800

into the flight

71

00:04:39,590 --> 00:04:38,400

second stage thrusters are nominal

72

00:04:42,950 --> 00:04:39,600

copy

73

00:04:45,030 --> 00:04:42,960

we all feel fine and everything's

74

00:04:46,870 --> 00:04:45,040

in order on board

75

00:04:48,550 --> 00:04:46,880

soyuz core stage is performing as

76  
00:04:51,270 --> 00:04:48,560  
advertised the core stage of the soyuz

77  
00:04:53,590 --> 00:04:51,280  
is 56 feet in length 13 and a half feet

78  
00:04:56,310 --> 00:04:53,600  
in diameter with a single engine of four

79  
00:04:57,909 --> 00:04:56,320  
with four fuel chambers providing 96

80  
00:05:01,590 --> 00:04:57,919  
tons of thrust for its three minutes and

81  
00:05:01,600 --> 00:05:08,070  
the vehicle is stable

82  
00:05:08,080 --> 00:05:21,710  
and we're doing well

83  
00:05:31,670 --> 00:05:25,670  
250 seconds

84  
00:05:35,189 --> 00:05:34,230  
everything is in order on board

85  
00:05:36,390 --> 00:05:35,199  
the

86  
00:05:40,950 --> 00:05:36,400  
g4

87  
00:05:43,670 --> 00:05:40,960  
still rising and we're experiencing them

88  
00:06:01,590 --> 00:05:43,680

i'm growing g-forces as we

89

00:06:07,029 --> 00:06:04,390

290 seconds into the flight

90

00:06:09,029 --> 00:06:07,039

separation of second stage

91

00:06:11,510 --> 00:06:09,039

second stage separation there the core

92

00:06:14,070 --> 00:06:11,520

stage engines now fulfilled their role

93

00:06:16,150 --> 00:06:14,080

for today and dropping away about four

94

00:06:18,070 --> 00:06:16,160

minutes of power flat remaining soyuz

95

00:06:20,870 --> 00:06:18,080

now being propelled by single engine of

96

00:06:22,629 --> 00:06:20,880

the soyuz third stage this engine is

97

00:06:28,309 --> 00:06:22,639

providing 30 tons of thrust and will

98

00:06:42,309 --> 00:06:31,189

stage three is operating nominally

99

00:07:07,589 --> 00:06:44,070

third stage thruster is operating

100

00:07:10,870 --> 00:07:09,189

continuing to get views inside the

101  
00:07:13,270 --> 00:07:10,880  
capsule as the crew continues to make

102  
00:07:14,309 --> 00:07:13,280  
its way towards orbit 160 seconds of

103  
00:07:17,110 --> 00:07:14,319  
flight

104  
00:07:19,350 --> 00:07:17,120  
peach rolling are all nominal

105  
00:07:20,469 --> 00:07:19,360  
everything continued as continuing as

106  
00:07:21,830 --> 00:07:20,479  
planned

107  
00:07:23,749 --> 00:07:21,840  
we copy all

108  
00:07:29,029 --> 00:07:23,759  
mission control everything's in order on

109  
00:07:29,039 --> 00:07:40,629  
g-forces are continuing to grow

110  
00:07:46,869 --> 00:07:45,350  
390 seconds into the flight

111  
00:07:51,749 --> 00:07:46,879  
the

112  
00:07:52,790 --> 00:07:51,759  
launcher parameters are all nominal

113  
00:07:56,830 --> 00:07:52,800

copy

114

00:08:00,469 --> 00:07:59,430

board we're hearing translated status

115

00:08:02,710 --> 00:08:00,479

reports

116

00:08:23,189 --> 00:08:02,720

again reporting that all is continuing

117

00:08:26,309 --> 00:08:24,550

now more than seven minutes into the

118

00:08:29,430 --> 00:08:26,319

flight

119

00:08:31,350 --> 00:08:29,440

we'll see now almost 13 500 miles an

120

00:08:33,990 --> 00:08:31,360

hour

121

00:08:35,990 --> 00:08:34,000

okay but weak

122

00:08:38,709 --> 00:08:36,000

we hear

123

00:08:42,310 --> 00:08:38,719

increasing noise on

124

00:08:45,910 --> 00:08:44,070

this is it for me i wish you all the

125

00:08:48,310 --> 00:08:45,920

best

126  
00:08:49,110 --> 00:08:48,320  
good job

127  
00:08:51,110 --> 00:08:49,120  
and

128  
00:08:52,949 --> 00:08:51,120  
we're almost out of coverage how do you

129  
00:08:54,710 --> 00:08:52,959  
read me

130  
00:08:57,190 --> 00:08:54,720  
over

131  
00:08:59,829 --> 00:08:57,200  
we copy all thank you very much

132  
00:09:00,949 --> 00:08:59,839  
for your kind words we will try to do

133  
00:09:03,030 --> 00:09:00,959  
our best

134  
00:09:04,470 --> 00:09:03,040  
to complete all of the objection

135  
00:09:06,389 --> 00:09:04,480  
objectives

136  
00:09:09,430 --> 00:09:06,399  
of everything that's been

137  
00:09:11,190 --> 00:09:09,440  
assigned to us anatoly permanent there

138  
00:09:13,430 --> 00:09:11,200

head of ross cosmos and the russian

139

00:09:15,670 --> 00:09:13,440

state commission of top space managers

140

00:09:17,910 --> 00:09:15,680

wishing the crew luck once again

141

00:09:19,670 --> 00:09:17,920

motion control system parameters are all

142

00:09:21,190 --> 00:09:19,680

nominal once the third stage delivers

143

00:09:22,870 --> 00:09:21,200

the soyuz to orbit and the module

144

00:09:24,550 --> 00:09:22,880

separated a series of pre-programmed

145

00:09:27,829 --> 00:09:24,560

commands will be executed to prepare the

146

00:09:30,230 --> 00:09:27,839

soyuz for orbital operations 500 seconds

147

00:09:32,310 --> 00:09:30,240

into the flight flight is nominal these

148

00:09:34,790 --> 00:09:32,320

stored commands called time tag commands

149

00:09:36,710 --> 00:09:34,800

allow many of the soyuz systems to be

150

00:09:38,470 --> 00:09:36,720

automatically activated by ongoing

151

00:09:40,389 --> 00:09:38,480

computers at precise time stored in

152

00:09:43,829 --> 00:09:40,399

those computers things are still good on

153

00:09:50,389 --> 00:09:47,509

520 seconds into the flight

154

00:10:09,910 --> 00:09:50,399

now just under nine minutes into today's

155

00:10:13,670 --> 00:10:11,670

stage three separation

156

00:10:15,750 --> 00:10:13,680

confirmed

157

00:10:17,670 --> 00:10:15,760

third stage cutoff and separation a

158

00:10:19,269 --> 00:10:17,680

single liquid fuel engine is shut down

159

00:10:21,990 --> 00:10:19,279

and dropped away at an altitude of about

160

00:10:24,630 --> 00:10:22,000

125 statute miles

161

00:10:26,230 --> 00:10:24,640

mission control moscow this time

162

00:10:28,310 --> 00:10:26,240

third stage is performing an avoidance

163

00:10:31,430 --> 00:10:28,320

maneuver by opening a valve and it's

164

00:10:32,870 --> 00:10:31,440

liquid oxygen tank thanks guys and gula

165

00:10:43,110 --> 00:10:32,880

this is mission control moscow how do

166

00:10:43,120 --> 00:10:54,790

and going from moscow

167

00:10:59,030 --> 00:10:56,949

please make sure and write down that

168

00:11:01,910 --> 00:10:59,040

during the leak checks uh you do not

169

00:11:04,710 --> 00:11:01,920

need to close erpe1 actually do not

170

00:11:07,350 --> 00:11:04,720

close up everyone how copy

171

00:11:08,710 --> 00:11:07,360

we copy we already closed it should we

172

00:11:11,829 --> 00:11:08,720

reopen it

173

00:11:13,030 --> 00:11:11,839

no don't worry about opening it our one

174

00:11:15,829 --> 00:11:13,040

copy

175

00:11:18,870 --> 00:11:15,839

airport one

176

00:11:48,949 --> 00:11:18,880

open we will perform measurement one at

177

00:11:54,470 --> 00:11:51,190

now 11 minutes into today's flight the

178

00:11:56,150 --> 00:11:54,480

soyuz capsule and crew inside are safely

179

00:11:57,509 --> 00:11:56,160

in orbit in the spacecraft is

180

00:11:59,430 --> 00:11:57,519

automatically executing its