



1
00:00:04,080 --> 00:00:26,710
t-minus 60 seconds and counting

2
00:00:26,720 --> 00:00:30,710
here

3
00:00:37,190 --> 00:00:32,229
the first umbilical has now separated

4
00:00:37,200 --> 00:00:46,869
t-minus 30 seconds and counting

5
00:00:53,029 --> 00:00:48,790
launch

6
00:00:54,950 --> 00:00:53,039
initiated okay we copy and everything is

7
00:01:10,830 --> 00:00:54,960
nominal on board we are ready for the

8
00:01:15,749 --> 00:01:13,910
ignition and we have a lift off liftoff

9
00:01:18,390 --> 00:01:15,759
of steve swanson oleg mayev and

10
00:01:19,830 --> 00:01:18,400
alexander schwartzoff on a six-hour

11
00:01:32,390 --> 00:01:19,840
journey to the international space

12
00:01:36,230 --> 00:01:34,390
soyuz lights up the nice guy there at

13
00:01:37,910 --> 00:01:36,240

the baikonur cosmodrome good first stage

14

00:01:40,469 --> 00:01:37,920

performance the soyuz delivering a total

15

00:01:42,710 --> 00:01:40,479

of 466 tons of thrust

16

00:01:44,710 --> 00:01:42,720

from its four boosters and single engine

17

00:01:47,109 --> 00:01:44,720

the first stage of the soyuz measures 68

18

00:01:48,950 --> 00:01:47,119

feet in length and 24 feet in diameter

19

00:01:51,670 --> 00:01:48,960

it is burning liquid fuel for the first

20

00:01:54,630 --> 00:01:51,680

one minute and 58 seconds of the flight

21

00:01:56,950 --> 00:01:54,640

nominal

22

00:02:09,350 --> 00:01:56,960

functionality is stable

23

00:02:12,630 --> 00:02:10,949

one minute into the flight velocity is

24

00:02:15,990 --> 00:02:12,640

now approaching one thousand one hundred

25

00:02:19,910 --> 00:02:17,510

right now

26

00:02:25,990 --> 00:02:19,920

okay we're coffee the crew is doing

27

00:02:29,350 --> 00:02:27,510

the crew is reporting that everything is

28

00:02:31,830 --> 00:02:29,360

a looking good the flight to shaping up

29

00:02:33,190 --> 00:02:31,840

as planned

30

00:02:46,390 --> 00:02:33,200

approaching the one minute 30 second

31

00:03:01,589 --> 00:02:48,630

thrusters working

32

00:03:07,190 --> 00:03:03,190

the escape tower has now been jettisoned

33

00:03:09,830 --> 00:03:08,470

the four strap-on boosters have been

34

00:03:11,430 --> 00:03:09,840

jettisoned these have completed their

35

00:03:13,509 --> 00:03:11,440

job and have dropped away at an altitude

36

00:03:15,270 --> 00:03:13,519

of 28 statute miles the soyuz is

37

00:03:19,350 --> 00:03:15,280

traveling at about 3

38

00:03:22,390 --> 00:03:19,360

350 miles an hour

39

00:03:38,869 --> 00:03:22,400

first stage separation no issues we copy

40

00:03:38,879 --> 00:03:51,350

nominal

41

00:03:54,630 --> 00:03:52,710

the launch strat has now been jettisoned

42

00:03:56,390 --> 00:03:54,640

the rockets altitude is now 48 miles

43

00:03:58,630 --> 00:03:56,400

high as we look live on board there's

44

00:04:00,789 --> 00:03:58,640

alexander scorsese

45

00:04:02,550 --> 00:04:00,799

going low-tech with that uh sticky as in

46

00:04:04,309 --> 00:04:02,560

his hand that's what he's using to input

47

00:04:06,229 --> 00:04:04,319

commands into the soyuz computer there

48

00:04:08,149 --> 00:04:06,239

on the right is oligarch

49

00:04:14,149 --> 00:04:08,159

just to the left out of you is nasa

50

00:04:14,159 --> 00:04:18,949

we are observing all of it

51
00:04:22,230 --> 00:04:20,390
the soyuz is currently traveling at a

52
00:04:36,070 --> 00:04:22,240
speed of 4700

53
00:04:40,070 --> 00:04:37,990
everything is nominal on board

54
00:04:42,469 --> 00:04:40,080
everything reported nominal as expected

55
00:04:44,070 --> 00:04:42,479
the soyuz core stage is performing

56
00:04:46,629 --> 00:04:44,080
extremely well the core stage of the

57
00:04:48,310 --> 00:04:46,639
soyuz is 56 feet in length

58
00:04:49,670 --> 00:04:48,320
13 and a half feet in diameter with a

59
00:04:52,550 --> 00:04:49,680
single engine with four combustion

60
00:04:54,150 --> 00:04:52,560
chambers providing 111 tons of thrust

61
00:04:55,670 --> 00:04:54,160
for its three minutes and 28 seconds of

62
00:04:57,590 --> 00:04:55,680
operation following that separation of

63
00:04:59,590 --> 00:04:57,600

the four strap-on boosters that we saw

64

00:05:00,950 --> 00:04:59,600

close to the two-minute mark

65

00:05:03,590 --> 00:05:00,960

the stage will continue to burn until

66

00:05:05,110 --> 00:05:03,600

the four-minute 43 second mark

67

00:05:06,790 --> 00:05:05,120

as we talked about the soyuz uses what's

68

00:05:08,870 --> 00:05:06,800

called a hot stage technique this third

69

00:05:10,070 --> 00:05:08,880

stage will ignite while the second stage

70

00:05:11,670 --> 00:05:10,080

is still burning and still attacking

71

00:05:13,270 --> 00:05:11,680

second stage

72

00:05:15,430 --> 00:05:13,280

this is why the soyuz has an open area

73

00:05:17,029 --> 00:05:15,440

in between the second and thirds

74

00:05:19,749 --> 00:05:17,039

thank you for the report the crew is

75

00:05:29,909 --> 00:05:22,070

22 23 ready

76

00:05:33,510 --> 00:05:31,590

yeah the picture we're getting is not

77

00:05:35,670 --> 00:05:33,520

that great

78

00:05:36,830 --> 00:05:35,680

okay r11

79

00:05:58,469 --> 00:05:36,840

has been

80

00:06:02,550 --> 00:05:59,909

the third stage is now igniting the

81

00:06:05,189 --> 00:06:02,560

second stage is a shutting down

82

00:06:09,510 --> 00:06:05,199

we copy a deactivation of the second

83

00:06:11,670 --> 00:06:09,520

stage second stage has now separated

84

00:06:13,830 --> 00:06:11,680

separation

85

00:06:16,870 --> 00:06:13,840

we copy and everything is nominal on

86

00:06:18,390 --> 00:06:16,880

board we are feeling great

87

00:06:21,270 --> 00:06:18,400

now that the core booster is separating

88

00:06:25,350 --> 00:06:21,280

and falling away the soldiers altitude

89

00:06:33,990 --> 00:06:26,790

stable

90

00:06:36,870 --> 00:06:35,350

approaching five and a half minutes into

91

00:06:38,550 --> 00:06:36,880

the flight the soyuz now being propelled

92

00:06:40,070 --> 00:06:38,560

by the single engine of the soyuz's

93

00:06:42,790 --> 00:06:40,080

third stage

94

00:06:43,749 --> 00:06:42,800

this engine is providing 33.5 tons of

95

00:06:45,189 --> 00:06:43,759

thrust

96

00:06:49,469 --> 00:06:45,199

and will burn for four minutes in two

97

00:06:49,479 --> 00:07:14,950

340 40 seconds light is nominal

98

00:07:18,629 --> 00:07:16,870

six minutes into the flight everything

99

00:07:34,150 --> 00:07:18,639

going according to plan the crew reports

100

00:07:34,160 --> 00:07:51,990

foreign

101
00:07:57,510 --> 00:07:55,110
everything is nominal and stable

102
00:08:05,749 --> 00:07:57,520
we copy everything is nominal on board

103
00:08:08,950 --> 00:08:07,189
approaching seven minutes into the

104
00:08:10,589 --> 00:08:08,960
flight again on the far right hand side

105
00:08:13,430 --> 00:08:10,599
is

106
00:08:15,749 --> 00:08:13,440
oligarchy he will become the 212th

107
00:08:17,270 --> 00:08:15,759
person onboard the space station

108
00:08:18,950 --> 00:08:17,280
he is a first-time flyer there in the

109
00:08:21,029 --> 00:08:18,960
middle alexander skortsov this is his

110
00:08:23,029 --> 00:08:21,039
second flight

111
00:08:24,950 --> 00:08:23,039
on the left is nasa astronaut steve

112
00:08:37,990 --> 00:08:24,960
swanson just out of camera view

113
00:08:42,230 --> 00:08:39,829

seven minutes and 30 seconds into the

114

00:08:44,470 --> 00:08:42,240

flight velocity now almost 13

115

00:08:45,670 --> 00:08:44,480

500 miles an hour as we take a live shot

116

00:08:47,670 --> 00:08:45,680

inside the mission control center here

117

00:08:49,829 --> 00:08:47,680

in houston this team is uh steadily

118

00:08:51,750 --> 00:08:49,839

watching along as the soyuz finishes its

119

00:08:55,430 --> 00:08:51,760

climb up into orbit second flight is

120

00:09:05,190 --> 00:08:55,440

nominal no issues we copy everything's

121

00:09:08,630 --> 00:09:06,949

approaching the eight minute mark once

122

00:09:10,710 --> 00:09:08,640

the third stage delivers the soyuz to

123

00:09:12,630 --> 00:09:10,720

orbit and the module is separated

124

00:09:14,150 --> 00:09:12,640

a series of pre-programmed commands will

125

00:09:16,389 --> 00:09:14,160

be executed to prepare the soyuz for

126

00:09:18,470 --> 00:09:16,399

orbital operations the stored commands

127

00:09:20,150 --> 00:09:18,480

called timed tagged commands allow many

128

00:09:22,150 --> 00:09:20,160

of the soyuz systems to be automatically

129

00:09:23,829 --> 00:09:22,160

activated by the onboard computers at

130

00:09:30,550 --> 00:09:23,839

precise times that have been stored

131

00:09:38,389 --> 00:09:32,949

we are feeling well and everything is

132

00:09:38,399 --> 00:09:42,230

eight and a half minutes into the flight

133

00:09:45,430 --> 00:09:43,670

approaching a third stage cutoff and

134

00:09:48,230 --> 00:09:45,440

separation momentarily

135

00:09:51,030 --> 00:09:48,240

if you keep your eye on quack the duck

136

00:09:54,710 --> 00:09:51,040

should be floating here shortly

137

00:10:08,550 --> 00:09:57,350

weightlessness confirmed

138

00:10:12,069 --> 00:10:10,710

altitude right now the soyuz is 125

139

00:10:14,230 --> 00:10:12,079

statute miles

140

00:10:16,550 --> 00:10:14,240

how do you read

141

00:10:19,110 --> 00:10:16,560

okay guys have a successful flight i