1
00:00:04,630 --> 00:00:01,270
around

2
00:00:08,790 --> 00:00:06,869
i saw the command the umbilical tower

3
00:00:10,230 --> 00:00:08,800
now moving away from the soyuz the

4
00:00:12,789 --> 00:00:10,240
flight engines

5
00:00:15,350 --> 00:00:12,799
for the first stage will come up to

6
00:00:17,269 --> 00:00:15,360
flight speed momentarily

7
00:00:19,429 --> 00:00:17,279
the second umbilical tower will be

8
00:00:23,830 --> 00:00:19,439
dropping back from the soyuz

9
00:00:23,840 --> 00:00:27,589
ignition

10
00:00:32,229 --> 00:00:29,910
there it goes we're standing by for main

11
00:00:36,310 --> 00:00:32,239
engine start

12
00:00:37,350 --> 00:00:36,320
three

13
00:00:39,030 --> 00:00:37,360

two

14
00:00:43,350 --> 00:00:39,040
one

15
00:00:47,910 --> 00:00:45,029
and liftoff

16
00:00:49,670 --> 00:00:47,920
liftoff of the soyuz rocket

17
00:00:51,350 --> 00:00:49,680
shannon walker fyodor yurchikhin and

18
00:00:53,510 --> 00:00:51,360
doug wheelock begin their journey on the

19
00:01:09,190 --> 00:00:53,520
100th launch on behalf of the

20
00:01:09,200 --> 00:01:23,749
thank you

21
00:01:30,310 --> 00:01:25,670
soyuz vehicle good pitch program

22
00:01:34,390 --> 00:01:32,310
good first stage performance the soyuz

23
00:01:44,550 --> 00:01:34,400
delivering 100 two tons of thrust from

24
00:01:47,830 --> 00:01:46,149
10 seconds

25
00:01:49,910 --> 00:01:47,840
60 seconds

26
00:02:03,990 --> 00:01:49,920
yeah one minute into the flight the

27
00:02:09,990 --> 00:02:08,150
about two to two and a half units

28
00:02:12,150 --> 00:02:10,000
fyodor yurchikhin reporting about two

29
00:02:14,229 --> 00:02:12,160
g's

30
00:02:16,470 --> 00:02:14,239
as uh the vehicle

31
00:02:18,309 --> 00:02:16,480
approaches the period of maximum dynamic

32
00:02:21,030 --> 00:02:18,319
pressure

33
00:02:36,309 --> 00:02:21,040
no they have stronger vibration at the

34
00:02:41,589 --> 00:02:38,390
we're standing by for the shutdown and

35
00:02:45,910 --> 00:02:41,599
jettison of the four strap-on boosters

36
00:02:49,509 --> 00:02:47,350
the boosters dropping away at an

37
00:02:50,750 --> 00:02:49,519
altitude of 30 statute miles the soyuz

38
00:02:53,830 --> 00:02:50,760

traveling

39
00:03:02,229 --> 00:02:53,840
3950 miles an hour 73 miles downrange

40
00:03:07,110 --> 00:03:04,309
normal parameters are being reported for

41
00:03:09,350 --> 00:03:07,120
all of the soyuz systems

42
00:03:10,790 --> 00:03:09,360
on board everything is nominal we're in

43
00:03:13,589 --> 00:03:10,800
great spirits

44
00:03:15,670 --> 00:03:13,599
a good view inside the descent module

45
00:03:17,430 --> 00:03:15,680
shannon walker the board engineer

46
00:03:19,430 --> 00:03:17,440
heading towards space

47
00:03:24,710 --> 00:03:19,440
fyodor yurchikhin the soyuz commander at

48
00:03:27,830 --> 00:03:26,070
two and a half minutes into the flight

49
00:03:39,509 --> 00:03:27,840
standing by for escape tower and launch

50
00:03:45,190 --> 00:03:42,630
the soyuz now 52 miles in altitude 102

51
00:03:49,910 --> 00:03:45,200
miles downrange traveling 4 500 miles an

52
00:03:54,710 --> 00:03:52,789
the image is very good and the view of

53
00:03:58,070 --> 00:03:54,720
doug wheelock flight engineer number two

54
00:04:11,670 --> 00:03:58,080
seated to the right of fyodor yurchikhin

55
00:04:15,350 --> 00:04:13,110
the soyuz

56
00:04:19,189 --> 00:04:15,360
sailing on toward orbit all systems

57
00:04:24,390 --> 00:04:21,590
the soyuz core stage or second stage

58
00:04:26,870 --> 00:04:24,400
performing as advertised this stage is

59
00:04:32,310 --> 00:04:26,880
56 feet in length 13 and a half feet in

60
00:04:53,670 --> 00:04:35,110
230

61
00:04:56,710 --> 00:04:55,510
now just beyond the four minute mark

62
00:04:58,469 --> 00:04:56,720
into the flight

63
00:05:01,189 --> 00:04:58,479

all of the soyuz systems performing

64
00:05:01,199 --> 00:05:14,590
copy seven nine eight

65
00:05:18,790 --> 00:05:17,430
270 seconds control system parameters

66
00:05:20,310 --> 00:05:18,800
are nominal

67
00:05:26,550 --> 00:05:20,320
okay thank you

68
00:05:32,550 --> 00:05:28,870
just a few seconds away from

69
00:05:36,629 --> 00:05:34,629
and now uh the visiting vehicle officer

70
00:05:38,150 --> 00:05:36,639
confirmed second stage sep

71
00:05:41,909 --> 00:05:38,160
the core booster has burned out and

72
00:05:44,790 --> 00:05:41,919
separated in an altitude of 104 miles

73
00:05:47,749 --> 00:05:44,800
the soyuz 179 miles downrange from the

74
00:05:56,790 --> 00:05:47,759
baikonur cosmodrome traveling 8 700

75
00:06:01,430 --> 00:05:58,550
the soyuz now being propelled by the

76
00:06:04,309 --> 00:06:01,440
single engine of the soyuz third stage

77
00:06:06,469 --> 00:06:04,319
this engine providing 30 tons of thrust

78
00:06:20,790 --> 00:06:06,479
it will burn for just over four minutes

79
00:06:25,830 --> 00:06:23,029
in the cloudless skies over the

80
00:06:43,870 --> 00:06:25,840
central asian desert the soyuz vehicle

81
00:06:43,880 --> 00:06:50,950
360 seconds pitch your roll nominal

82
00:06:54,790 --> 00:06:52,629
and this view inside the international

83
00:06:56,390 --> 00:06:54,800
space station tracy caldwell dyson on

84
00:06:59,110 --> 00:06:56,400
the right mikhail kornienko and

85
00:07:01,029 --> 00:06:59,120
alexander schwarzoff watching the launch

86
00:07:02,469 --> 00:07:01,039
of the soyuz vehicle

87
00:07:04,230 --> 00:07:02,479
and the transport of their three

88
00:07:06,230 --> 00:07:04,240

colleagues toward orbit to begin the

89
00:07:21,670 --> 00:07:06,240
two-day orbital chase for docking

90
00:07:21,680 --> 00:07:25,670
six and a half minutes into the flight

91
00:07:29,029 --> 00:07:26,550
the

92
00:07:31,909 --> 00:07:29,039
soyuz now traveling at about 12 000

93
00:07:44,710 --> 00:07:33,670
not quite two minutes left in powered

94
00:07:48,950 --> 00:07:46,950
once the third stage delivers the soyuz

95
00:07:51,029 --> 00:07:48,960
to orbit and the module is separated a

96
00:07:53,029 --> 00:07:51,039
series of pre-programmed commands will

97
00:07:55,270 --> 00:07:53,039
be executed to prepare the soyuz for

98
00:07:57,749 --> 00:07:55,280
orbital operations

99
00:07:59,510 --> 00:07:57,759
those commands called time tag commands

100
00:08:01,430 --> 00:07:59,520
allow many of the soyuz systems to be

101
00:08:02,550 --> 00:08:01,440
automatically activated by the onboard

102
00:08:05,670 --> 00:08:02,560
computers

103
00:08:07,110 --> 00:08:05,680
at precise times

104
00:08:12,189 --> 00:08:07,120
now seven and a half minutes into the

105
00:08:16,230 --> 00:08:14,390
450 seconds

106
00:08:34,269 --> 00:08:16,240
nominal flight

107
00:08:38,149 --> 00:08:36,630
470 seconds

108
00:08:40,790 --> 00:08:38,159
stage 3

109
00:08:42,949 --> 00:08:40,800
engines are nominal thank you very much

110
00:08:44,630 --> 00:08:42,959
everything's fine on board we feel very

111
00:08:46,389 --> 00:08:44,640
good

112
00:08:48,070 --> 00:08:46,399
fyodor yurchikhin reporting back to

113
00:08:49,829 --> 00:08:48,080

flight controllers that everything is

114
00:08:52,870 --> 00:08:49,839
proceeding by the book less than a

115
00:09:00,310 --> 00:08:52,880
minute of powered flight remaining

116
00:09:00,320 --> 00:09:17,670
500 seconds nominal flight

117
00:09:26,310 --> 00:09:19,509
standing by for third stage cut off and

118
00:09:31,110 --> 00:09:27,509
that's it

119
00:09:33,110 --> 00:09:31,120
thank you thank you so much

120
00:09:36,470 --> 00:09:33,120
and now we have confirmation of third

121
00:09:38,310 --> 00:09:36,480
stage cutoff and spacecraft separation

122
00:09:40,310 --> 00:09:38,320
hey i know

123
00:09:42,230 --> 00:09:40,320
i know you're a synergy guy i know

124
00:09:44,150 --> 00:09:42,240
you'll do that and tell me that okay but

125
00:09:57,670 --> 00:09:44,160
thank you anyway thank you very much and

126
00:10:03,590 --> 00:10:00,630
big smiles on the faces of the crew in

127
00:10:06,230 --> 00:10:03,600
the soyuz tma-19 the soyuz in its

128
00:10:11,110 --> 00:10:06,240
preliminary orbit at an altitude of 148

129
00:10:16,230 --> 00:10:12,470
thank you

130
00:10:19,430 --> 00:10:17,910
and we now have confirmation of the

131
00:10:21,430 --> 00:10:19,440
deployment of the solar arrays and the

132
00:10:24,069 --> 00:10:21,440
navigational antennas control of the

133
00:10:26,470 --> 00:10:24,079
spacecraft now overseen from the russian

134
00:10:27,509 --> 00:10:26,480
mission control center in korea outside

135
00:10:30,470 --> 00:10:27,519
moscow

136
00:10:33,110 --> 00:10:30,480
a perfect ascent to orbit for the newest

137
00:10:36,069 --> 00:10:33,120
trio of residents headed for the