1
00:00:10,790 --> 00:00:02,869
t-minus 20 seconds to launch and the

2
00:00:10,800 --> 00:00:14,950
second umbilical tower now separating

3
00:00:18,070 --> 00:00:16,870
five four

4
00:00:19,109 --> 00:00:18,080
three

5
00:00:22,950 --> 00:00:19,119
two

6
00:00:27,990 --> 00:00:25,750
and liftoff liftoff of the soyuz 29

7
00:00:29,269 --> 00:00:28,000
spacecraft that is taking

8
00:00:32,389 --> 00:00:29,279
don pettit

9
00:00:47,029 --> 00:00:32,399
oleg kononenko and andre kuipers to the

10
00:00:52,389 --> 00:00:49,590
good first stage performance the soyuz

11
00:00:54,630 --> 00:00:52,399
is delivering 102 tons of thrust from

12
00:00:57,189 --> 00:00:54,640
its four boosters in a single engine

13
00:01:00,069 --> 00:00:57,199

the first stage of the soyuz measures 68

14
00:01:01,750 --> 00:01:00,079
feet in length 24 feet in diameter and

15
00:01:13,590 --> 00:01:01,760
it's burning liquid fuel for the first

16
00:01:19,510 --> 00:01:16,950
data shows a normal launch and

17
00:01:29,429 --> 00:01:19,520
climb into orbit

18
00:01:50,069 --> 00:01:31,350
at the one minute 10 second mark

19
00:01:50,079 --> 00:02:00,870
happy

20
00:02:03,670 --> 00:02:02,389
visiting vehicle officer here in mission

21
00:02:05,990 --> 00:02:03,680
control reporting the flight vendor

22
00:02:08,389 --> 00:02:06,000
handle heather that all systems are

23
00:02:10,229 --> 00:02:08,399
working well as the soyuz continues its

24
00:02:12,869 --> 00:02:10,239
climb into orbit

25
00:02:14,949 --> 00:02:12,879
before strap-on boosters

26
00:02:17,030 --> 00:02:14,959
being jettisoned he's completing their

27
00:02:20,949 --> 00:02:17,040
job and dropping away at an altitude of

28
00:02:26,070 --> 00:02:22,630
launch miles

29
00:02:29,470 --> 00:02:26,080
parameters within the norm

30
00:02:32,229 --> 00:02:29,480
uh the load uh increasing

31
00:02:33,430 --> 00:02:32,239
110 seconds

32
00:02:42,550 --> 00:02:33,440
your

33
00:02:51,589 --> 00:02:44,949
we have first stage separation so he's

34
00:02:56,630 --> 00:02:53,670
the escape tower and the launch shroud

35
00:02:58,869 --> 00:02:56,640
have now been jettisoned

36
00:03:00,070 --> 00:02:58,879
and we are at the two minute and forty

37
00:03:01,430 --> 00:03:00,080
second mark

38
00:03:04,589 --> 00:03:01,440

of this flight to the international

39
00:03:07,270 --> 00:03:04,599
space station aboard soyuz 29 and tmz

40
00:03:09,030 --> 00:03:07,280
tma-03m spacecraft

41
00:03:12,630 --> 00:03:09,040
all parameters of the launch vehicle and

42
00:03:18,149 --> 00:03:14,710
there's a feeling as though the rocket

43
00:03:20,470 --> 00:03:18,869
the

44
00:03:22,149 --> 00:03:20,480
launch

45
00:03:25,190 --> 00:03:22,159
needle and

46
00:03:30,270 --> 00:03:25,200
we have a control launch indicator

47
00:03:35,670 --> 00:03:33,030
170 three minutes into the flight of the

48
00:03:37,910 --> 00:03:35,680
uh soyuz to the space station i was

49
00:03:40,309 --> 00:03:37,920
traveling at a speed of about 4 700

50
00:03:42,470 --> 00:03:40,319
miles an hour

51
00:03:43,990 --> 00:03:42,480
the soyuz core stage is performing as

52
00:03:46,390 --> 00:03:44,000
expected

53
00:03:48,149 --> 00:03:46,400
it is 56 feet in length 13 and a half

54
00:03:50,710 --> 00:03:48,159
feet in diameter and a single engine

55
00:03:52,229 --> 00:03:50,720
with four fuel chambers is providing 96

56
00:04:09,990 --> 00:03:52,239
tons of thrust

57
00:04:13,830 --> 00:04:11,670
these are live in cabin views from

58
00:04:16,310 --> 00:04:13,840
inside the soyuz spacecraft we can see

59
00:04:19,990 --> 00:04:16,320
don pettit and ola kononenko

60
00:04:25,830 --> 00:04:20,000
to the left and right as they

61
00:04:25,840 --> 00:04:41,670
230.

62
00:04:46,629 --> 00:04:43,830
the

63
00:04:48,310 --> 00:04:46,639

all systems working normally 240 seconds

64
00:04:50,469 --> 00:04:48,320
into the flight

65
00:04:54,830 --> 00:04:50,479
250.

66
00:04:58,070 --> 00:04:54,840
uh your speech and role within the norm

67
00:04:59,830 --> 00:04:58,080
happy roll pitch and yeah thrusters

68
00:05:01,350 --> 00:04:59,840
working nominally controlling the

69
00:05:04,390 --> 00:05:01,360
orientation of the vehicle as it

70
00:05:06,550 --> 00:05:04,400
continues its launch into orbit

71
00:05:10,310 --> 00:05:06,560
and the crew is doing well

72
00:05:12,230 --> 00:05:10,320
we're at four minutes 45 seconds

73
00:05:16,230 --> 00:05:12,240
the core booster is about to burn out

74
00:05:18,469 --> 00:05:16,240
and separate at an altitude of 105 miles

75
00:05:32,870 --> 00:05:18,479
once that core stage has completed its

76
00:05:35,749 --> 00:05:34,390
the visiting vehicle officer reporting

77
00:05:37,749 --> 00:05:35,759
to flight director heather rarick here

78
00:05:46,070 --> 00:05:37,759
in mission control that the

79
00:05:49,430 --> 00:05:47,749
the core stage engine uh now finished

80
00:05:51,029 --> 00:05:49,440
and dropping away

81
00:05:53,749 --> 00:05:51,039
about four minutes of powered flight

82
00:05:56,150 --> 00:05:53,759
remaining soyuz is being propelled by a

83
00:05:58,309 --> 00:05:56,160
single engine of the soyuz's third stage

84
00:05:59,830 --> 00:05:58,319
thank you that engine providing 30 tons

85
00:06:08,950 --> 00:05:59,840
of thrust is going to burn for four

86
00:06:13,110 --> 00:06:11,029
the systems of the

87
00:06:15,029 --> 00:06:13,120
third stage

88
00:06:18,309 --> 00:06:15,039

are doing well and the crew is doing

89
00:06:19,590 --> 00:06:18,319
well as well and it is 340 seconds in

90
00:06:21,189 --> 00:06:19,600
flight up

91
00:06:22,950 --> 00:06:21,199
parameters of the control system for the

92
00:06:24,469 --> 00:06:22,960
launch vehicle six minutes into the

93
00:06:26,790 --> 00:06:24,479
launch of this soyuz spacecraft and

94
00:06:28,710 --> 00:06:26,800
we're getting live in cabin views this

95
00:06:30,870 --> 00:06:28,720
is a good look at european space agency

96
00:06:33,270 --> 00:06:30,880
astronaut andre kuipers from the

97
00:06:35,189 --> 00:06:33,280
netherlands on the upper right portion

98
00:06:37,350 --> 00:06:35,199
of your screen and on the lower left in

99
00:06:39,110 --> 00:06:37,360
the center seat is commander oleg

100
00:06:44,950 --> 00:06:39,120
kononenko

101
00:06:50,790 --> 00:06:46,870
all soyuz systems working well during

102
00:06:55,710 --> 00:06:53,029
the structural parameters of the launch

103
00:07:00,150 --> 00:06:55,720
vehicle are nominal sloping

104
00:07:00,160 --> 00:07:05,790
h3 is operating stable

105
00:07:05,800 --> 00:07:10,150
390 seconds

106
00:07:14,830 --> 00:07:11,830
the control

107
00:07:14,840 --> 00:07:19,510
parameters 400 seconds in flight

108
00:07:22,950 --> 00:07:21,350
stabilization of the launch vehicle

109
00:07:24,550 --> 00:07:22,960
within the norm

110
00:07:26,230 --> 00:07:24,560
everything is fine on board and the crew

111
00:07:38,150 --> 00:07:26,240
is doing well

112
00:07:43,270 --> 00:07:40,469
coming up on the seven minute 30 second

113
00:07:44,869 --> 00:07:43,280

mark of the launch of this soyuz 29

114
00:07:45,830 --> 00:07:44,879
spacecraft to the international space

115
00:07:48,309 --> 00:07:45,840
station

116
00:07:49,749 --> 00:07:48,319
spacecraft's velocity is now

117
00:07:52,710 --> 00:07:49,759
almost 13

118
00:07:54,869 --> 00:07:52,720
500 miles an hour

119
00:07:55,589 --> 00:07:54,879
third stage phenomena

120
00:07:57,430 --> 00:07:55,599
and

121
00:07:58,869 --> 00:07:57,440
third stage engines continuing to

122
00:08:04,830 --> 00:07:58,879
operate normally

123
00:08:04,840 --> 00:08:11,110
450 seconds

124
00:08:11,120 --> 00:08:19,670
loads continue

125
00:08:24,150 --> 00:08:21,110
eight minutes since the launch of the

126
00:08:25,510 --> 00:08:24,160
soyuz spacecraft and three explorers

127
00:08:27,670 --> 00:08:25,520
headed for the international space

128
00:08:29,110 --> 00:08:27,680
station all systems working normally

129
00:08:31,189 --> 00:08:29,120
howard's

130
00:08:48,389 --> 00:08:31,199
portion of the flight is nearly over oh

131
00:08:48,399 --> 00:09:06,389
vehicle stabilization domino

132
00:09:06,399 --> 00:09:09,430
increasing

133
00:09:09,440 --> 00:09:14,949
110

134
00:09:14,959 --> 00:09:17,990
520

135
00:09:18,000 --> 00:09:35,030
seconds in flight

136
00:09:35,040 --> 00:09:38,870
thank you very much

137
00:09:41,509 --> 00:09:39,829
alex

138
00:09:43,750 --> 00:09:41,519

this is

139
00:09:45,990 --> 00:09:43,760
and the third stage of the

140
00:09:47,670 --> 00:09:46,000
vehicle has now separated the three crew

141
00:09:49,910 --> 00:09:47,680
members shaking hands and

142
00:09:52,310 --> 00:09:49,920
congratulations of a successful launch

143
00:09:54,310 --> 00:09:52,320
into orbit thank you very much now that

144
00:09:56,949 --> 00:09:54,320
the third stage has completed delivery

145
00:09:58,870 --> 00:09:56,959
of the soyuz to orbit and the module has

146
00:10:00,470 --> 00:09:58,880
separated a series of pre-programmed